August 20, 1956

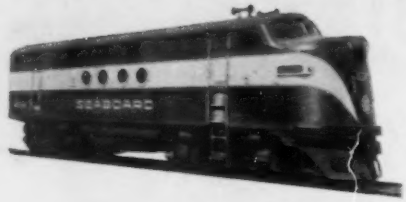
Schooling for Management . . . p. 23

RAILWAY AGE

WORKBOOK OF THE RAILWAYS

THE INDUSTRY'S ONLY WEEKLY NEWSMAGAZINE

16 now
12 FT UNITS CONVERTED TO GP9'S
(more to come)

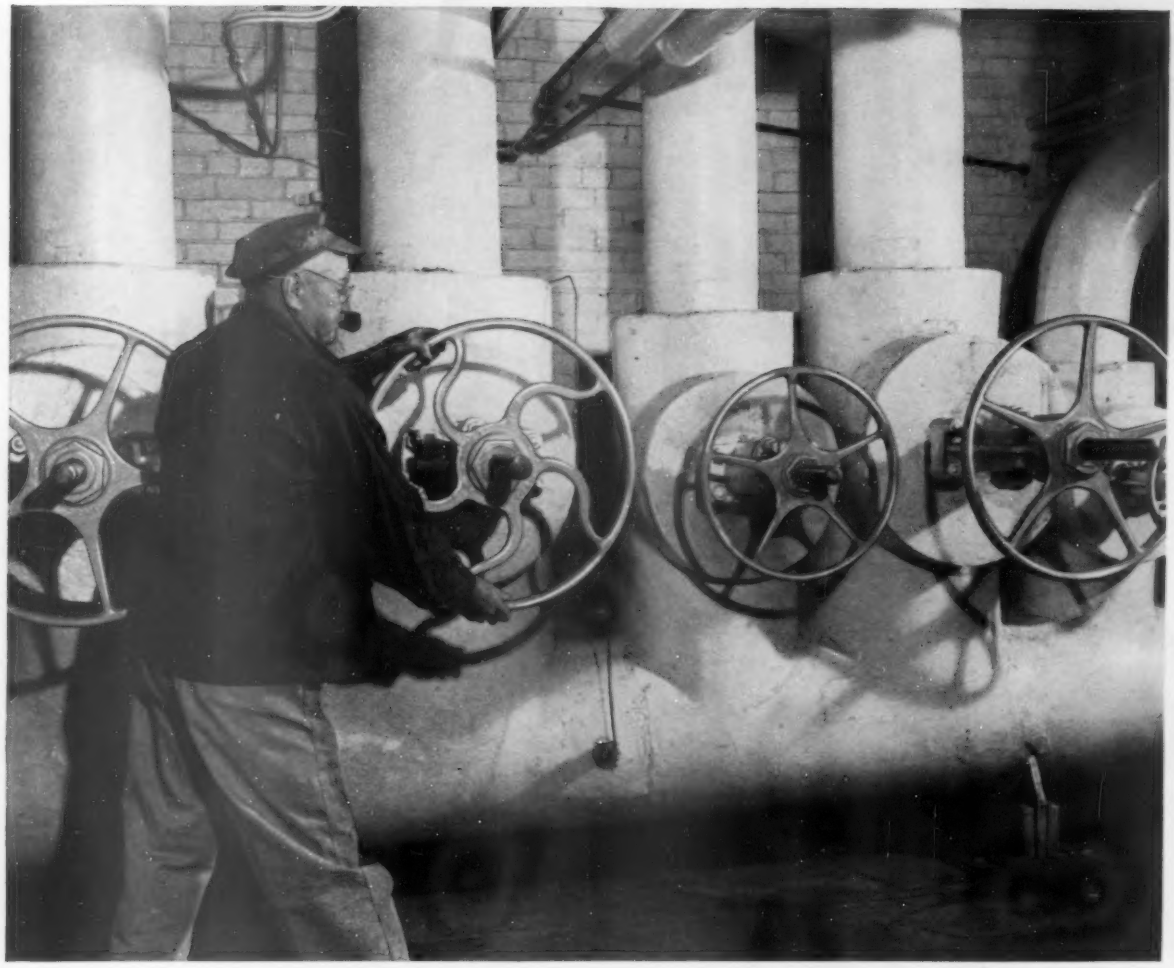


In 1955 we modernized for the Seaboard Air Line Railroad twelve of their Diesel freight locomotives which had been in service over fourteen years. Now, four more FT's are being converted to full GP9's. Still more are scheduled for next year.

Planned modernization of older Diesels helps the Seaboard meet growth conditions economically, *as they occur*. For three of these converted and upgraded units are actually capable of the same work as four FT's. Their greater utility, tractive effort and operating economy not only result in more tonnage being hauled faster, but pay a substantial return on investment.

ELECTRO-MOTIVE DIVISION · GENERAL MOTORS
LA GRANGE, ILLINOIS • *HOME OF THE DIESEL LOCOMOTIVE*
In Canada: General Motors Diesel, Ltd., London, Ontario

GENERAL MOTORS LOCOMOTIVES



20-year veterans—all—
with Crane "one-cost" service records

A CASE HISTORY—What better hedge could a power plant have against high maintenance costs?

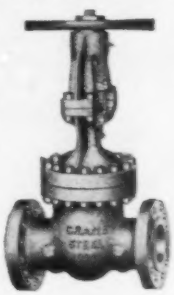
Call it foresight or sound buying practice, the Fort Bend Utilities Co., Sugar Land, Texas, knows the bigger value in quality steel valves. For 20 years now, these Crane 600-pound gates have been operating with no added cost beyond original investment, except for occasional repacking.

The valves are on a main header, with working pressure at 400 psi, 750 deg. F.

As a subsidiary of Imperial Sugar Co., the Fort Bend Utilities plant supplies steam to the neighboring Imperial Sugar refinery through the valve shown being operated. This 8-in. Crane No. 76XR steel gate has to its credit 20 years of faithful once-a-week operation with the refinery's weekend shutdowns. The other valves assure dependable steam control to units in the power plant.

Service records like this result from internal valve quality. They begin with the greater care Crane gives to design, castings, heat treating and machining.

Don't be misled by outside similarity to Crane steel valves. Get the facts from your local Crane Representative or by writing to address below.

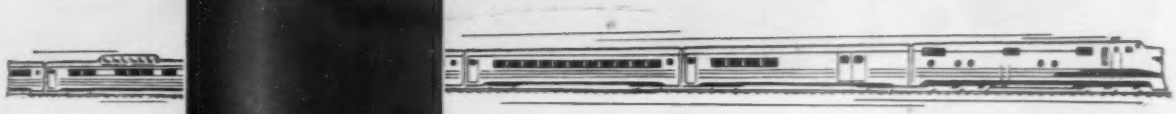


CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

Strong Shanks? Strong Necks and Threads?



These Track Bolts Have 'Em!

Bethlehem Track Bolts have shanks, oval necks and rolled threads which are strong and durable — more than a match, by far, for the bolting conditions encountered even in the busiest of traffic patterns.

Bethlehem Track Bolts are furnished with well-formed square nuts, the kind that make possible firm gripping with hand or power wrenches. And they're made in a complete range of sizes, for use with every weight of rail.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

BETHLEHEM STEEL

Can you handle 60 to 90 trains a day on one track?

Maximum track capacity means different figures on different railroads —but there are several single-track C.T.C. installations in this country which have handled from 60 to 90 or more trains a day satisfactorily. In these cases, sidings are close together and traffic is fairly well distributed.

The important point to remember is this—*C.T.C. can get the most use out of every track.* If you have a two, three or four-track system, you may be able to eliminate one or more tracks with large savings in operating and maintenance expense. Track maintenance alone may range from $3000 to $5000 per track mile annually. This, combined with sizeable reductions in operating expense, can go a long way toward paying for a modern traffic control system.

The question, then, is: "How many tracks do you really need?" To help you solve this problem, Union Switch & Signal maintains a staff of experienced traffic control engineers. They will make a survey of your traffic conditions and give you an authoritative answer as to possible savings. Call our nearest office for details. There is no obligation.

75 Years 1881 1956

OF EQUIPMENT AND SYSTEMS ENGINEERING .....

UNION SWITCH & SIGNAL

RAILWAY AGE

EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 79 WEST MONROE STREET, CHICAGO 3, ILL.

EDITOR ..... James G. Lyne
EDITOR EMERITUS ..... Samuel O. Dunn
EXECUTIVE EDITOR .. William H. Schmidt, Jr.
MANAGING EDITOR ..... C. B. Tavenner
NEWS & FINANCIAL EDITOR .. Fred C. Miles
WASHINGTON EDITOR ..... Walter J. Taft
WESTERN EDITOR ..... Joe W. Kizzia

TRAFFIC & TRANSPORTATION
Joe W. Kizzia, Gardner C. Hudson, Ernest V. Celmer

MECHANICAL ..... H. C. Wilcox
G. J. Weihofen, F. N. Houser, Jr., James F. Berge

ELECTRICAL ..... Alfred G. Oehler

ENGINEERING ..... M. H. Dick
R. E. Dove, R. M. Schmidl

SIGNALING & COMMUNICATIONS
John H. Dunn, Robert W. McKnight

REGIONAL NEWS
New York ..... Robert B. Keane
Chicago ..... Thomas H. Desnoyers

PRESENTATION ..... Franklin Ryan
ASSOCIATE EDITOR ..... Charles Layng
LIBRARIAN ..... Edith C. Stone

EDITORIAL ASSISTANTS
Ann Ortlinghaus, June Meyer
Shirley Smith, Wanda Brown

DIRECTOR OF PRODUCTION
M. J. Figa, Jr., *New York*

DIRECTOR OF RESEARCH
John W. Milliken, *New York*

ART DIRECTOR
Russell F. Rypsam, *New York*

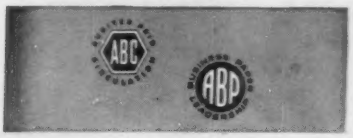
PUBLISHER
Robert G. Lewis, *New York*

SALES PROMOTION DIRECTOR
Fred Lesner, *New York*

ADVERTISING SALES DEPARTMENT

New York 7, N.Y., 30 Church St., WO-4-3060	C. W. Merriken, J. S. Vreeland, F. Baker
Chicago 3, Ill., 79 W. Monroe St., RA-6-0794	J. R. Thompson, J. W. Crossett, J. D. Dolan
Cleveland 13, O. Terminal Tower, MA-1-4455	H. H. Melville, C. J. Fisher
Dallas 19, Tex., 3908 Lemmon Ave., Lakeside 2322	Joseph Sanders
Los Angeles 17, Cal., 1127 Wilshire Blvd., MA-6-0553	Fred Klaner, Jr., B. J. Erickson
Portland 5, Ore., 1220 S.W. Morrison, CA-7-4993	L. B. Conaway
San Francisco 4, Cal., 244 California St., GA-1-7004	Lewis Vogler
London E.C. 2, Eng. 48 London Wall	Sibley-Field Publishing Co., Ltd.
Frankfurt am Main (16), West Germany, Wittelsbacher Allee 60	International Advertising Agency

Published weekly with an additional issue in September by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn. James G. Lyne, president. Arthur J. McGinnis, executive vice-president and treasurer. F. A. Clark, vice-president and secretary.



SUBSCRIPTION TO RAILROAD EMPLOYEES ONLY IN U. S., U. S. POSSESSIONS, CANADA AND MEXICO, $4 ONE YEAR, $6 TWO YEARS, PAYABLE IN ADVANCE AND POSTAGE PAID. TO RAILROAD EMPLOYEES ELSEWHERE IN THE WESTERN HEMISPHERE, $10 A YEAR; IN OTHER COUNTRIES, $15 A YEAR—TWO-YEAR SUBSCRIPTIONS DOUBLE ONE-YEAR RATE. SINGLE COPIES 50c. EXCEPT SPECIAL ISSUES. CONCERNING SUBSCRIPTIONS WRITE R. C. VAN NESS, CIRCULATION DIRECTOR, 30 CHURCH ST., NEW YORK 7.

Workbook of the Railways

Vol. 141, No. 8
August 20, 1956

CONTENTS and Week at a Glance

Railroading careers for college graduates . . .

. . . particularly for technical men, may not have the "glamor" some other industries provide, but they offer satisfaction and great opportunities. The railroads are moving to compete with other industries for choice graduates. . . . p.7

A fast timetable . . .

. . . has been set by the ICC for action on the application of several eastern roads for a 45% first class fare hike and a 5% boost in coach ticket prices. . . . p.8

FORUM: Schooling for management . . .

. . . may be designed to give a specialist a wider outlook or to increase the depth of his knowledge in his own field. The "staff college" technique can be used to advantage for either objective—or both. Interchange of officers among railroads is another educational device which might be employed more widely than it is. . . . p.23

Up from the streets . . .

. . . is a directive many railroads get from state authorities concerned with highway grade crossing elimination. A complex situation of this sort faced the Jersey Central, where it was dealt with in seven careful steps. . . . p.24

Radioactive freight . . .

. . . doesn't present much of a problem, so far, to most railroads, but where it does—on the 150 miles of track serving the Hanford, Wash., plant operated for the government by General Electric—procedures have been worked out to deal with its hazards successfully. . . . p.26

Illinois Terminal's future . . .

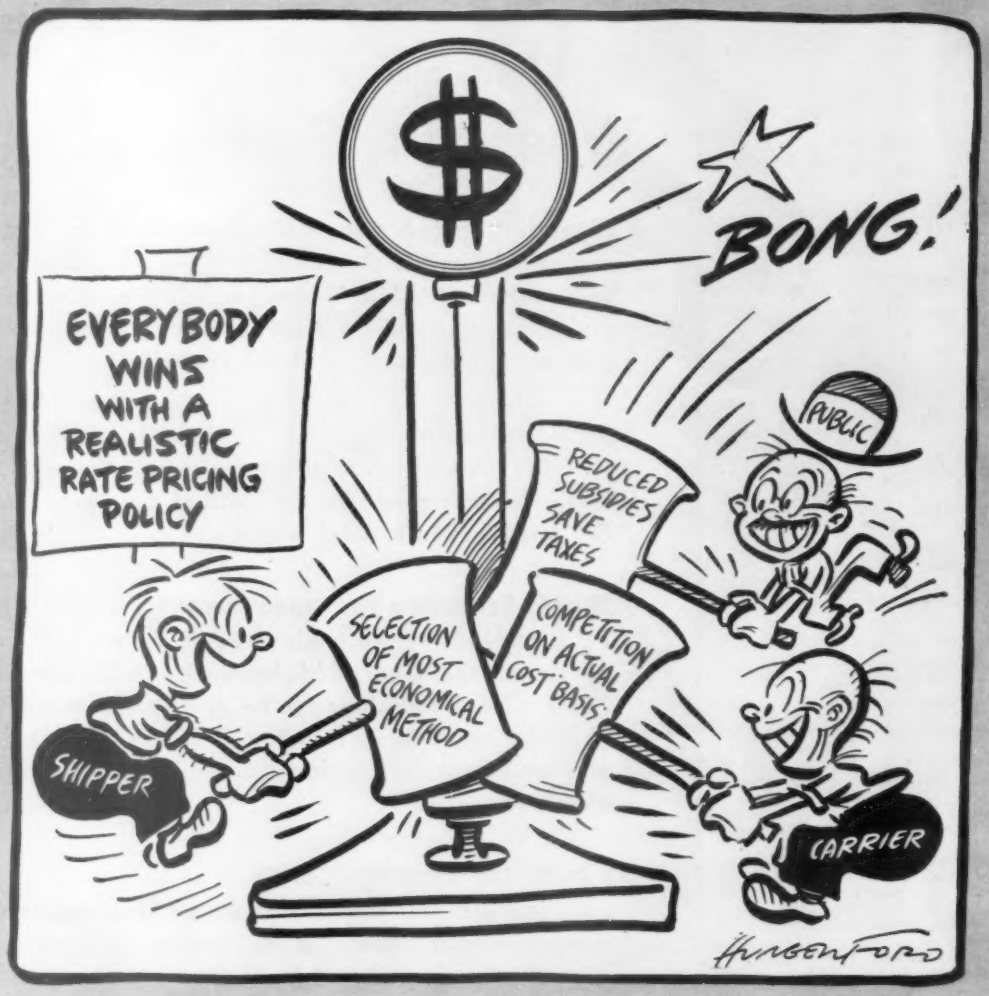
. . . has brightened, now that it has been taken over by 10 major railroads; passenger operations have been sharply reduced, unprofitable lines have been abandoned, and electric and steam power has been replaced by diesels. . . . p.29

Accenting the positive . . .

. . . is the Central of Georgia's policy in public relations and

let competition decide

by Hungerford



We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.

Edgewater **Rolled Steel Wheels**

for Freight Cars Passenger Cars Diesel Locomotives

Edgewater Steel Company
PITTSBURGH 30, PA.

Current Statistics

Operating revenues, six months	
1956	$5,293,274,781
1955	4,835,326,880
Operating expenses, six months	
1956	$4,040,560,806
1955	3,654,220,154
Taxes six months	
1956	$559,076,693
1955	523,450,895
Net railway operating income, six months	
1956	$510,512,938
1955	530,456,895
Net income, estimated, six months	
1956	$399,000,000
1955	416,000,000
Average price 20 railroad stocks	
August 14, 1956	102.39
August 16, 1955	92.80
Carloadings revenue freight	
Thirty-one weeks, 1956	21,984,282
Thirty-one weeks, 1955	21,655,945
Average daily freight car surplus	
Wk. ended Aug. 11, 1956	16,170
Wk. ended Aug. 13, 1955	4,645
Average daily freight car shortage	
Wk. ended Aug. 11, 1956	6,115
Wk. ended Aug. 13, 1955	13,244
Freight cars on order	
July 1, 1956	129,409
July 1, 1955	27,102
Freight cars delivered	
Six months, 1956	33,189
Six months, 1955	17,111
Average number railroad employees	
Mid-July 1956	1,032,859
Mid-July 1955	1,091,380

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX, THE ENGINEERING INDEX SERVICE AND THE PUBLIC AFFAIRS INFORMATION SERVICE. RAILWAY AGE, ESTABLISHED IN 1856, INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE. NAME REGISTERED IN U. S. PATENT OFFICE AND TRADE MARK OFFICE IN CANADA.

Departments

Financial	12
Forum	23
Freight Car Loadings	9
Freight Operating Statistics	38
New Equipment	9
Railroading After Hours	30
Railway Market	9
Railway Officers	13
Supply Trade	12
What's New in Products	16

Week at a Glance CONTINUED

advertising, and it works two ways. It brings in more business where there's a chance to show some net, and it smooths the way for eliminating hopelessly unprofitable operations without antagonizing customers. . . . p.31

BRIEFS

45 per cent more . . .

. . . for luxury-class travel (as proposed by several eastern railroads) is pretty rugged for a single increase, in this paper's opinion—which seems to be widely shared. The proposal is justified to dramatize a serious situation—but, if seriously pressed, then it should be supported by careful market studies. Most experienced merchandisers find out what price will bring in the customers, and then tailor their service and costs to fit.

Strike ballots are being passed out . . .

. . . to members of 11 non-operating unions. Returns are due by September 12. A union spokesman said in Chicago last week the move was prompted by (1) the railroad-proposed 6½-cent wage cut offered as a counter proposal to union demands for a 25 cents-an-hour wage increase; and by (2) union feeling that current negotiations are "dragging" and ought to be speeded to a Presidential emergency board.

Southern railroads are in the mail-pay case . . .

. . . with a petition filed at the ICC. Like the petition filed earlier by eastern roads, it asks the commission to investigate the situation with a view to fixing rates that will reflect the cost of the service.

Passenger trains without riders . . .

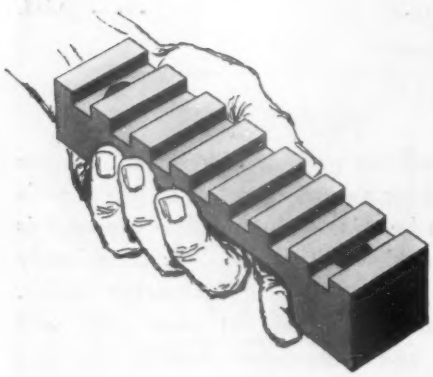
. . . don't pay, but "cost us money we can ill afford to lose," the Chicago & North Western said in further reshuffling its Chicago-Omaha passenger schedules last week. Consolidations of some trains, new termini for others and shifting of sleeper cars marked this aftermath of the Union Pacific's "switchover" to the Milwaukee.

Solid bearings vs. roller bearings . . .

. . . for freight cars—that's the area of a new study reportedly being prepared by the Research Advisory Committee of the Journal Bearing Manufacturers, a technical group within the solid bearing industry.

How R-S JOURNAL STOPS will further Reduce Solid Bearing Operating Costs

and pay for themselves in less than 3 years!



Tests have proved that this new device will greatly improve bearing performance and journal lubrication, will at least double bearing life, reduce wheel flange wear and make other significant savings in freight car operation.

STABILIZE the solid bearing assembly and you approach the maximum in bearing performance. You do just that with R-S Journal Stops. Best of all, they pay for themselves in less than 3 years. Here's how:

First, you reduce routine yard servicing and oiling requirements. Packing seldom needs adjustment, and you don't need oil so often either. (Other lubricators, pad or mechanical, will benefit, too). You cut car oilers' time in half, and inspectors' time by as much as 25%. When enough cars are Journal Stop equipped that could mean savings close to $18.00 per car per year.*

Second, all indications point to 3-year periods between periodic attention as required by Rule 66. That would cut current costs in half — save as much as $6.00 per car per year.

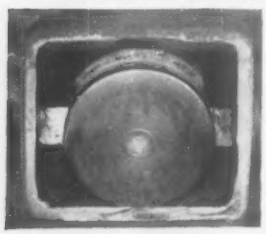
Third, and conservatively, you'll reduce road repair costs to a third of what they now are — possibly a great deal more. That means minimum savings of $6.00 per car per year.

Fourth, you'll cut bearing consumption in half — use less than 1½ bearings per car per year. In annual savings that will mean about $4.00 per car.

The above four items alone represent potential annual savings of $34.00 per car. Add to these the tremendous savings due to reduced wheel flange wear and a 3-year recovery estimate is probably conservative.

One private car company whose total savings are determined largely by billings that don't cover servicing costs, has already estimated recovery of total installation costs in less than 3 years. Operating roads will save even more. Write us today for full information. Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.

**These and other estimated savings are based on unbiased studies of AAR solid journal bearing operating costs.*



Unretouched photo of the RS Journal Stop installation with conventional waste packing. Other lu ors are similarly "contained."

MAGNUS

Solid Bearings

MAGNUS METAL CORPORATION

Subsidiary of **NATIONAL LEAD COMPANY**

RAILWAY AGE
Workbook of the Railways

RRs Rig Careers for College Grads

The "ability to get along with people" is a basic prerequisite for a college graduate being screened for a job with the Pennsylvania.

Why? Because "we are training the young men for future managerial and executive positions as against engineering design and research jobs," a PRR spokesman informed Railway Age. He indicated that such a personality factor, coupled with the overall makeup of the applicant's education, is at least as important as "what he got from books" when a graduate engineer is interviewed.

In this day of "the sky's the limit" offers to the wearer of cap and gown —particularly those drawing sheepskins from leading technical schools —employment practices and techniques are vitally important to the railroads. And as the railroads map their recruitment "campaigns" the matter of *keeping* the college men looms just as large as the problem of *getting* them.

How the Pennsylvania goes about it, then, takes on extra significance because the PRR has retained what seems to be an unusually large proportion of the graduate engineers it has hired.

Having developed—during a period of 60 years of active recruitment on college campuses—close contacts with engineering school deans and heads of college placement bureaus, the Pennsylvania has not experienced until the last two years serious difficulty obtaining the number of the technical graduates it has needed.

The problem has become more difficult since 1954, the PRR reports, "with outside industry offering certain inducements with which the railroads cannot compete" but still, "a careful check" shows that this road has lost only about 8% of its graduate engineers during their first two years on the job.

Training Programs a Key Incentive in Hiring and Holding . . .

The Baltimore & Ohio, which has lost only 3% of the men "who have entered our formal training program" within their first two years with the road, cites the training it offers as a big contributing factor.

The Great Northern likewise relies on training for college men to help them "develop in job stature" through a more rounded knowledge of railroading and feels this is a definite "talking point" in dealing with prospective employees.

On the GN, graduate-trainees get a specified starting salary for the first six months on the job with automatic increases at the end of that period and again at the end of the first year of work. "During this period," C. A. Pearson, assistant to the president-personnel, relates, "trainees are given every opportunity to learn and acquire experience to qualify for management positions."

The GN, like the PRR, also reports "endeavoring to establish continuing contacts with key personnel in the various colleges" in its territory so as to be "informed as to the outstanding students that indicate a career in railroading."

Mr. Pearson notes that the GN's experience in holding college men has not been entirely satisfactory thus far, however, as about 45% of college graduates (not only technical men) have been lost through "resignation, demotion or dismissal" since 1950. This ratio is expected to be bettered, however, in view of the GN's inaugurating a "selective hiring system" in 1954.

The Chesapeake & Ohio, according to F. J. Householder, Jr., chief of personnel services, similarly places growing faith in training programs, noting that "young college trained men are particularly interested these days in the training and development facilities which a company offers."

Mr. Householder notes that news of the railroads' growing interest in such programs "is reaching many of the college graduates and is serving to stimulate their interest in railroading as a career." But he cautions that it would be unwise to restrict management development opportunities to college men.

He says "we know that we have many people in the rank and file who possess high native intelligence even though they may not possess college degrees. We believe that these people provide our most important pool of future management people and we are making every effort to refine and improve our methods of selection and of appraisal and development of people from this group."

Hiring Difficulties Laid to Loss of Railroad "Glamor" . . .

Some reports indicate that graduate engineers particularly are looking to fields other than railroading for their careers because other industries are in the process of "growth" and expansion whereas they feel that railroading is a profession merely "marking time."

"Where has the glamor gone in railroading?" W. T. Wilson, assistant vice-president, Canadian National, asks. "We, on the inside, cannot help but feel the excitement and challenge that modern railroading presents. Our public, apparently, feels otherwise." The railroads' job, he noted, is to "persuade the university graduate" that the chances of

attaining a position of importance and good pay are just as good in railroading as in any other field for the man who knows what he wants to do and has a real goal.

Spokesman for a major eastern railroad declared in this connection that the railroads have not "made the effort that other industries have in telling college graduates the railroad story."

"For every railroad recruiter on campus," he asserted, there are "dozens" from aircraft, electronic and oil companies, and the problem is intensified when colleges drop railroading subjects. He reported that college faculty members lost interest in such subjects because the railroads had ceased to visit their campuses to look for employees while an engineering instructor said "he was glad to learn that the railroads were in the market for 'civils' and he would certainly mention it to his class."

The Illinois Central reports that in recent years more engineering graduates have left the company than have been hired, this reflecting the greater "attractiveness" of industries that are "more glamorized."

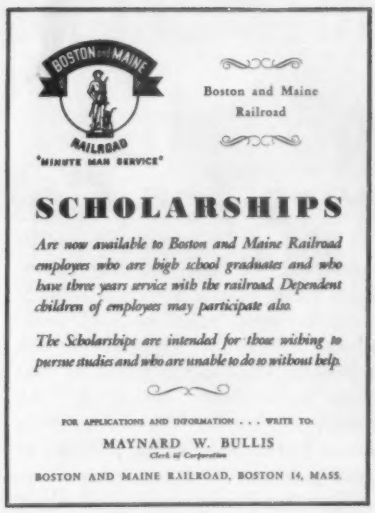
Other features inherent with railroading that deter prospective job applicants include the need to relocate frequently in the early years, long hours, long apprenticeships and traditionally tall ladders to top jobs.

However, S. M. Houston, general superintendent of motive power, Southern Pacific, stated that, except for the aircraft and electronic fields, "the railroads offer the young engineer a comparable rate of pay to that found in other industries." He did advocate, however, that the job title for a graduate engineer ought to be in keeping with his feelings as to what his education entitles him to rather than a title such as "draftsman."

One criticism of railroad practices was voiced by M. S. Riegel of the New York Central personnel department staff: "We are geared to the training of the regular apprentice and may not realize that training on a higher level and at a faster rate is a must for the junior engineer to prevent fatal boredom. The challenge to his abilities must always be there. . . . If this seems like special treatment, it is; he was hired with the expectation of his becoming a leader and we know today that leaders may be born but they also have to be trained."

Smaller roads like the Bangor & Aroostook are apt to have less of a problem holding the college graduate than the big roads do, partly, as BAR Mechanical Superintendent V. L. Ladd said, because they are able to contact candidates whose homes are pretty much on line and because they can maintain close contacts with these men after they are hired. Another small road's spokesman says it would be impossible to compete with other industries if it went in for campus recruiting.

Hiring non-technical college graduates is a special problem and in the experience of several roads, including the Illinois Central, is not too successful. The IC finds that college men in the operating department get "insufficient inducement" to "undertake the years of training necessary to qualify for an officer position."


BOSTON and MAINE
RAILROAD
"MINUTE MAN SERVICE"
Boston and Maine Railroad
SCHOLARSHIPS
Are now available to Boston and Maine Railroad employes who are high school graduates and who have three years service with the railroad. Dependent children of employes may participate also.
The Scholarships are intended for those wishing to pursue studies and who are unable to do so without help.
FOR APPLICATIONS AND INFORMATION . . . WRITE TO:
MAYNARD W. BULLIS
Clerk of Corporation
BOSTON AND MAINE RAILROAD, BOSTON 14, MASS.

Combining altruism with practical purposes, this program recently introduced on the Boston & Maine suggests one way railroads might encourage college graduates to find permanent careers in the industry. Scholarships, offered without "strings" to railroad employees and their dependent children, could open new job levels to railroad-dedicated personnel. Photo above is of placard posted by B&M on its lines.

Fare Hike Case to Get Fast ICC Action

The ICC last week moved promptly to begin an investigation of the proposed passenger fare increases filed August 10 by eight Eastern railroads.

Six of the roads—Chesapeake & Ohio, New York Central, Norfolk & Western, Pennsylvania, Pennsylvania-Reading Seashore and Pittsburgh & Lake Erie—are asking authority to increase their basic one-way parlor and sleeping car fares by 45%. These roads and two others, Lehigh Valley and Reading, also seek permission to boost coach fares 5% (Railway Age, July 30, p. 5).

The commission has docketed the case as No. 32032, and has set the following timetable:

Statements by the applicant roads, and others supporting the proposed increases, must be filed with the commission by September 4.

Statements opposing the higher fare proposal are subject to a filing deadline of September 20.

Replies to either the supporting or opposing statements are due by September 27.

A hearing for the cross-examination of witnesses on both sides will be held in Washington, D. C., on October 3.

The railroad petition stated that the increased fares, if approved, will not only apply between on-line points but will extend to interline tickets to the extent necessary to reflect the increases on the participating roads.

In addition, reduced round-trip fares in sleeping and parlor cars which have a 6-month limit would be cancelled; and excess baggage charges would be increased to correspond with the new first-class fare level.

The new basic first-class fares on the six roads would approximate 6.851 cents a mile, and the new coach fares 3.721 cents.

The Pullman Picture.—Asked for his views on the increases, J. J. Nolan, vice-president, traffic, the Pullman Company, stated that "the carriers must feel justified in their action."

However, he added that Pullman has been doing "quite well" and that "there is no reason to believe that

(Continued on page 10)

RAILWAY MARKET OUTLOOK THIS WEEK

a RAILWAY AGE Workbook Page

Carloadings Up.—Loadings of revenue freight in the week ended August 11 totaled 715,236 cars, the Association of American Railroads announced on August 16. This was an increase of 54,949 cars, or 8.3%, compared with the previous week; a decrease of 55,015 cars, or 7.1%, compared with the corresponding week last year; and an increase of 29,964 cars, or 4.4%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended August 4 totaled 660,287 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, August 4

District	1956	1955	1954
Eastern	108,732	124,336	105,920
Allegheny	108,624	151,520	119,597
Pocahontas	64,201	60,168	46,652
Southern	123,960	116,982	112,527
Northwestern	79,179	128,244	115,967
Central Western	118,130	122,517	113,023
Southwestern	57,461	56,620	53,906
Total Western Districts	254,770	307,381	282,896
Total All Roads	660,287	760,387	667,592
Commodities:			
Grain and grain products	59,711	57,369	52,408
Livestock	8,758	5,801	6,504
Coal	134,992	125,268	105,274
Coke	4,532	12,986	6,772
Forest Products	49,730	46,881	38,277
Ore	23,522	81,426	66,781
Merchandise l.c.l.	58,926	64,910	61,605
Miscellaneous	320,116	365,746	329,971
August 4	660,287	760,387	667,592
July 28	649,806	790,426	683,617
July 21	648,492	781,908	684,281
July 14	619,988	794,138	694,545
July 7	478,297	648,992	569,562
Cumulative total, 31 weeks	21,984,282	21,655,945	19,801,423

In Canada.—Carloadings for the 10-day period ended July 31 totaled 129,711 cars compared with 95,342 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
July 31, 1956	129,711	45,101
July 31, 1955	112,515	42,747
Cumulative Totals:		
July 31, 1956	2,504,389	1,030,779
July 31, 1955	2,252,262	940,910

New Equipment

FREIGHT-TRAIN CARS

► *Milwaukee.*—Ordered 100 70-ton covered hoppers from Pullman-Standard for delivery first quarter 1957; no purchase price details available.

LOCOMOTIVES

► *Less Than 5,000 Steamers.*—There were just 4,913 steam locomotives owned by Class I roads on June 1, compared with 7,304 a year ago same date, AAR reports; diesel ownership was up in same period from 24,243 to 25,521 units:

	Owned or Leased June 1		Stored Serviceable June 1		Waiting Shops June 1	
	1956	1955	1956	1955	1956	1955
Diesel (A & B Units)	25,521	24,243	13	28	877	898
Steam (locomotives)	4,913	7,304	735	1,376	793	1,186
Electric (Units)	629	660	9	15	59	70

MISCELLANEOUS

► *Alaska Railroad.*—Ordered 65 24-ft container vans, 40 non-refrigerated and 25 with temperature controls. ARR has had nine test units in service between Seattle and Anchorage since last year, (Railway Age, Dec. 5, 1955, p. 44).

New Facilities

► *Central of Georgia.*—Directors have voted to move present freight yards in south Chattanooga, Tenn., to new location south of city; change will provide location for intricate automobile traffic exchange which is first phase of proposed $65 million Chattanooga area expressway system; agreement for yard relocation, estimated cost of which is about $800,000, calls for expenditure of some $500,000 by CofG and $155,250 each by city and state.

► *Jersey Central.*—Is purchasing 265-acre site in Morris County, N.J., for industrial deevlopment on its Dover & Rockaway Branch; to be known as Central Morris Industrial Park, site is fourth such industrial community being developed by CNJ, others being at Cartaret and Elizabeth, N.J., and Crestwood, Pa.

► *New York Central.*—Will construct a 5,000 foot line extension from a point near its Kensington Yard to Chicago's new Lake Calumet Port; ICC approval is pending; Illinois Central and Belt of Chicago previously announced plans to reach new port area (Railway Age, July 2, p. 40).

► *Union Pacific.*—Announced following new projects: Omaha, Neb., headquarters and shop improvements, $531,850; Green River, Wyo., and Ogden, Utah, terminal improvements, $219,520; Afton, Cal., enlarge and concrete-line tunnel, $523,630; Hinkle, Ore., yard improvements, $94,100; Tacoma, Wash., realine track and fill bridge, $73,310.

► *Wabash.*—Acquired 100 acres of land in northwest St. Louis County to develop as industrial site.

Bus Produces Profits on "Loser" Rail Lines

Hauling freight and mail in 20-foot cargo space in rear, 20-passenger buses like this one reportedly are making money for Bangor & Aroostook and Northern Pacific where they have been introduced in place of abandoned passenger trains. Crown Body & Coach Co., Los Angeles builder, feels such units may be answer for railroads forced by local governments to maintain passenger service now operated at a loss.

(Continued from page 8)

the present modest up-swing will not continue." As to the company's future, Mr. Nolan said "the way the railroads have invested in equipment and motor power to compete for first class travel indicates that they must see a future for it."

He said that hopelessly unprofitable operations should be dropped but added that "there are a number of very excellent trains and there is no reason to believe that these trains are not making a profit."

Alpert Seeks More T-O-F-C Traffic

Moving to capture a larger share of truck traffic between southern New England and New York City, the New Haven has announced signing a contract with Piggyback Services, Inc., to handle its trailer-on-flat-car loading and unloading operations.

The announcement was made by New Haven President George Alpert coincident with the delivery of the first of 200 special flat cars being built for the road by Piggyback, Inc. Mr. Alpert stated that the New Haven is the first road to "embark on this new type of service arrangement calculated to bring scores of additional trailers onto the railroad."

He said the New Haven's peak piggyback performance had been in moving about 50,000 trailers in one year. "We are going all out to obtain a much more substantial share of the one million trailers a year now running between New York City and southern New England points," Mr. Alpert said. "We feel that by means of this contract, truckers are going to find it so attractive to use our service that soon we will have to set up a priority for the use of the piggyback cars."

Delivery of the balance of the 200 car order is expected to be completed next month. The New Haven anticipates the possibility of large scale interchange traffic with other roads.

Efficiency—Not Rate Hikes—Urged

Railroads should rely more on efficient operations and less on rate increases to meet rising expenses, S. H. Bingham, former executive director of the New York City Transit Authority, said at the reunion of the 740th Railway Operating Battalion at New York.

While higher rates to offset higher costs have "resulted in some additional revenue," Mr. Bingham said, they have "also resulted in loss of riders and diversion of freight to competing carriers.

"In an inflationary period . . . some increase in rates is essential, but I think we must do more to increase the efficiency of our operations and give the public better service."

Mr. Bingham, who was an Army colonel in Europe in World War II, warned that he is convinced that unless the railroads are freed "from archaic restrictions that no longer apply under today's conditions and unless we modernize all our operations to provide better service at attractive fares, we will follow the path of the British, and, despite all our good intentions and devotion to private enterprise, we will find ourselves with a nationalized transportation system."

Rates For Flying First Class Mail Set by CAB

The Civil Aeronautics Board has decided that rates paid to air lines for flying regular first class mail are fair and reasonable as long as the Post Office Department continues such "experiments" in their present form.

In so ruling, the board rejected contentions that the experimental rates are too low and should be increased to cover fully allocated costs. The board said that since this mail is handled voluntarily, using only space which cannot otherwise be sold, it need not bear a full share of costs.

The rates which are thus made permanent range from 18.66 cents to 20.04 cents per ton-mile, depending upon location. A dozen air lines participate in the 3-year-old postal experiment.

UP Plans New Stock Schedule

Livestock trains are scheduled to begin special operations over the Union Pacific next month. They will run from grazing areas in Utah, Wyoming, Nevada and Colorado to packing centers at Omaha, Kansas City, St. Joseph and Denver with a minimum of feed and rest stops.

Livestock from Carter and Kemmerer, Wyo., and points east will

make the trip to Omaha without a stop for feed or rest. Stock from points west of Carter and Kemmerer will make one such stop.

One train, leaving Wyoming on Friday, is scheduled to arrive in the market cities early Sunday morning, allowing a full day for feed, water and rest at the market before the Monday morning opening.

President Signs Pension Act; Wants Financing Plan

President Eisenhower has signed recently-enacted legislation liberalizing the Railroad Retirement Act. At the same time, the President issued a statement saying it was "imperative" that interested Congressional committees and railroad labor organizations make good on their assurances that legislation to provide for financing the new benefits will be enacted next year.

The President also expressed his opposition to any plan whereby retirement-act taxes paid by railroad employees would be excluded from their taxable income. Such a plan was part of a bill which Congress failed to pass this year. It was designed to offset the higher payroll taxes which the bill proposed to levy to support a 15% increase in retirement-act benefits.

The act finally passed and approved by the President provided for a 10% increase in benefits but no increase in taxes. Its passage in the session's closing days came after the assurances, referred to by the President, were given that financing legislation would be enacted next year.

SP Bridges Texas Trucking Gap

Southern Pacific Transport Company has purchased the Big Bend Motor Freight Lines' interstate and intrastate trucking rights between El Paso, Tex., and Alpine, and between Marfa and Presidio. These rights complete the last link in the SP's trans-Texas motor route.

SPT will provide overnight early-morning store door delivery of lcl and truckload volume shipments at all stations between El Paso and Alpine, in addition to the trans-Texas service according to the railroad announcement.

Joint Board "Advocacy" Deplored

Representatives of state commissions ought to participate with the ICC as "cooperators" and not "advocates," Interstate Commerce Commissioner Howard Freas told the annual convention of the National Association of Railroad & Utility Commissioners at San Francisco.

"Success in cooperative ventures [between state bodies and the ICC] calls for a persistent effort to preserve and a determination to improve what has heretofore been accomplished," Mr. Freas declared. But, he continued, "what is most important is a clear idea of what is involved and a cooperative spirit."

A representative of a state commission "should sit like an ICC commissioner to hear and analyze the evidence and form conclusions consistent with the showing made and the provisions of the Interstate Commerce Act," the commissioner asserted. "If that Act is believed to be undesirable," he went on, "the states may appeal to Congress to have it changed, but cooperators must not hope by their position as cooperators to overcome legislation they do not like."

For the Future—As to what could be accomplished in terms of more state-federal commission cooperation, Mr. Freas, noting that opportunities for useful joint efforts in rate cases "have been neglected," suggested that as soon as a case is docketed it should be decided whether or not joint hearings would be "feasible or desirable."

In general revenue cases, Mr. Freas said, state commissions should fill a dual role—in presentation of evidence whether supporting or opposed to the railroad position, and as an impartial panel representing no segment of industry or a particular state. He urged that in the next general revenue case, when it comes, the panel be appointed well in advance of the investigation, adding that the case is usually "about ready for hearing before the state commis-

First Transport Management Class at Stanford "Graduates"

Stanford University's first Transportation Management Program conducted by Gayton E. Germane, associate professor of transportation, (Railway Age, Mar. 19, p. 8), saw these officers from railroads, government and other transport agencies complete a varied course recently. In photo are (left to right) back row: C. B. Hinesley, Pacific Motor Trucking; L. D. Michelson, Western Pacific; P. B. Clover, American President Lines, J. W. Murphy, Southern Pacific; V. M. Richardson, SP; Michael Gogol, Texas & New Orleans; Richard Kimball, Army Transportation Corps; and Dean J. H. Jackson; 2nd row rear; G. M. Lorenz, WP; N. M. Schroeder, Army; F. E. Kriebel, SP; C. A. Jacobs, SP Transport; B. C. Symmank, Jr., SP; R. E. Wynkoop, SP; Logan Paine, WP; S. B. Lee, T&NO; and Professor Germane; 3rd row rear: R. D. Spence, SP; George Trabert, SP; R. C. Hudson, SP; O. G. Humphries Jr., SP; John Ayer Jr., Denver & Rio Grande Western; R. N. Sweeney, Grace & Co.; J. E. Dias, SP; and A. P. Laumond, American President Lines; front row: R. C. Brisach, Army; L. H. Sultan, SP; R. M. Young, Boston & Maine; H. C. Duffy, Bangor & Aroostook; Dorane Humphrey, Pacific Motor Trucking; S. C. Knight, Kaiser Steel; J. H. Mulchay, SP; and H. B. Nordstrom, Great Northern.

sion gets into the picture." Railroad intrastate rates and fares present another problem, Mr. Freas stated, defending the ICC against criticism that it does not invite joint consideration in Section 13(4) cases where the state commission has already rejected the railroad application. The state action, he said, leaves nothing pending before the state body and "the cooperative plan contemplates cooperation in joint hearings 'where similar issues are pending before the ICC and a state commission.'" He recommended that in such instances, the state proceeding be reopened and a joint hearing then be suggested.

11 Roads Paid Safety Fines in July

Eleven railroads paid fines in July totaling $5,200, plus costs, on 52 counts of violating the Safety Appliance Acts.

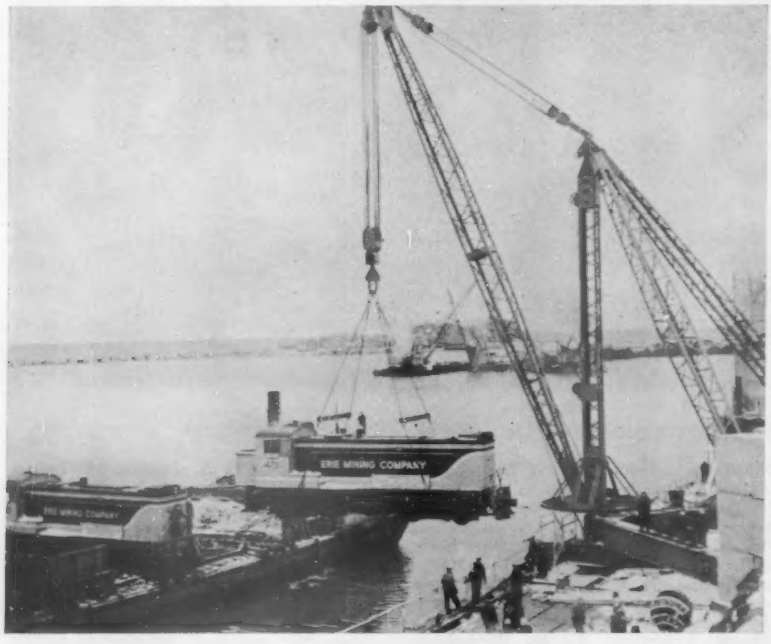
The ICC, which made public the July figures, broke down the 52 counts as follows: 15 inefficient or inoperative hand brakes; 15 insecure running boards; 5 cut-out brakes; 6 inoperative couplers; 4 insecure ladders; 1 insecure safety-railing; 3 train movements with less than the required percentage of train brakes; and 3 insecure sill-steps.

CGW Ends Chicago Passenger Service

The final Chicago Great Western passenger train left Chicago's Grand Central Terminal August 12, for Oelwein, Iowa, ending a service begun in 1888.

The train, which formerly had through sleeping cars between Chicago and Minneapolis, has been running empty 25% of the time recently, according to testimony given to the Illinois Commerce Commission.

The CGW still operates that part of the run between Dubuque and Oelwein, pending the outcome of its discontinuance case before the Iowa State Commerce Commission.



Power for New Railroad Is Hoisted in

Big lift is given 125-ton Baldwin-Lima-Hamilton locomotive, being delivered to Erie Mining Company at Taconite Harbor, Minn., by 185-ton derrick built by American Hoist & Derrick Co. Motive power for mining company's new taconite-hauling rail line from harbor to Aurora, Minn., was moved on barge from Duluth to Taconite Harbor.

Supply Trade

McCord Named Westinghouse President

A. King McCord will take over as president and chief executive officer of the Westinghouse Air Brake Company on September 1. He succeeds as president E. O. Boshell, who has served as both board chairman and president since joining Westinghouse in 1951. Mr. Boshell will remain as chairman.

Mr. McCord has been president since 1950 of The Oliver Corporation, producer of agricultural and construction equipment.

Reason for the new office, according to Mr. Boshell, is that the company's diversification program has brought enlarged responsibilities and it is desirable to separate the functions of the president and chairman of the board.

Financial

Chicago & North Western.—*Stock Option Plan Restricted.*—The ICC, in approving this road's application to issue 75,000 shares of no par common stock in connection with a stock option plan (Railway Age, July 30, p. 12; May 7, p. 71), stipulated that not more than 15,000 shares may be issued and sold to any one person. Of the whole issue, options had been conditionally granted to Ben W. Heineman, chairman, and C. J. Fitzpatrick, president, to buy 30,000 and 15,000 shares, respectively, at $26.625 a share. "We believe," the commission stated, "that the avowed objectives of the plan are more likely to be achieved, to applicant's benefit, if, instead of using such large proportions of the amount available for one or two individuals, such amount is spread over a larger number of the staff, with perhaps some shares being reserved for the granting of options in the future."

Dividends Declared

ALABAMA & VICKSBURG.—$3, semiannual, payable October 1 to holders of record September 7.

DELAWARE & BOUND BROOK.—50¢, quarterly, payable August 20 to holders of record August 13.

ELMIRA & WILLIAMSPORT.—$1.19, semiannual, payable November 1 to holders of record October 19.

FT. WAYNE & JACKSON.—5½% preferred, $2.75, semiannual, payable September 5 to holders of record August 22.

NORTH PENNSYLVANIA.—$1, quarterly, payable August 25 to holders of record August 17.

PHILADELPHIA & TRENTON.—$2.50, quarterly, payable October 10 to holders of record October 1.

PITTSBURGH & WEST VIRGINIA.—40¢, reduced, payable September 14 to holders of record August 17.

VICKSBURG, SHREVEPORT & PACIFIC.—common, $2.50, semiannual; 5% preferred, $2.50, semiannual; both payable October 1 to holders of record September 7.

Railway Officers

CANADIAN NATIONAL. — K. M. P. Ralston, mining engineer, has been appointed commissioner of development, Montreal.

Earl H. Fisher, superintendent of mechanical maintenance, transport department, appointed to the newly created post of manager of work equipment for the engineering department. He will head the maintenance of way work equipment department now being established on a system basis to coordinate allocation and maintenance of the large and growing variety of power machines.

Earl H. Fisher

George R. Johnston

George H. Hoganson

George R. Johnston, traffic research officer, appointed freight traffic manager, Montreal. **John C. Gardiner,** transport economist, Montreal, succeeds Mr. Johnston as traffic research officer at that point.

George H. Hoganson appointed chief of transport research, Montreal. **Alexander Olynyk,** research engineer, succeeds Mr. Hoganson as office engineer.

Robert Reid appointed division freight agent, Winnipeg, Man.; **Arthur Kemp** promoted to division freight agent, Regina, Sask., and **Henry M. Allan** named district freight agent, Moose Jaw, Sask.

CANTON.—Robert W. Dale, Jr. appointed foreign freight agent, Baltimore, succeeding **Henry H. Lee, Jr.,** who resigned to enter the construction industry.

Harrison M. Diver, is succeeded as general manager by **Harrison M. Diver, Jr.,** and is named consultant.

CHICAGO & NORTH WESTERN.—Gene F. Cermak, formerly freight traffic manager of the Chicago & Eastern Illinois at Chicago, appointed assistant director of industrial development of the C&NW at Chicago.

Albert O. Olson, director of industrial development at Chicago, retired July 31.

Samuel L. Howells, general agent at New Orleans, retired.

A Star for the General

Frisco President Clark Hungerford receives star marking promotion to brigadier general in Army Reserve from Brig. Gen. W. B. Bunker, Transport Supply and Maintenance Command, with Mrs. Hungerford lending a hand. Gen. Hungerford commands Third Transportation Railway Command, a reserve unit at St. Louis.

LOUISVILLE & NASHVILLE.—W. C. Rollings appointed shop superintendent, South Louisville, Ky., succeeding **W. D. Nelson,** deceased.

MAINE CENTRAL.—Frank H. Waring appointed assistant general freight agent, Portland, Me. Mr. Waring was formerly assistant general freight and passenger agent for both the **Barre & Chelsea** and **St. Johnsbury & Lamoille County.**

R. W. Williams, chief dispatcher, Portland, appointed superintendent there.

MINNEAPOLIS, NORTHFIELD & SOUTHERN.—O. D. Nelson, executive vice-president, Minneapolis, Minn., promoted to senior vice-president, succeeding **H. E. Pence,** elected president, (Railway Age, May 21, p. 137). **E. J. Sexton,** vice-president, traffic, succeeds Mr. Nelson as executive vice-president.

MONON.—Raymond E. Novy elected comptroller at Chicago.

Spencer L. Pearson, division freight agent, Bedford, Ind., retired July 31.

Leonard E. Eich, office assistant to vice-president, traffic, Chicago, appointed division freight agent, Bedford, Ind., to succeed **Spencer L. Pearson,** retired. **Otto M. Klein,** general agent, Hammond, Ind., succeeds Mr. Eich, and is replaced by **Horace E. Harlan. James M. Buckley** named freight traffic agent, Chicago. **Robert S. Wager,** general agent at LaFayette, Ind., appointed division freight agent, North St. Station, LaFayette.

Raymond E. Novy

OBITUARY

Kenneth L. Moriarty, 59, who retired three months ago as vice-president of the **New York Central** at New York, died August 11 in Le Roy Hospital.

Leonard F. Munson, 62, retired general superintendent of shops of the **Pullman Company,** died August 2 at Bryson City, N.C.

You can't afford tie failure in bottleneck areas...

Cushion track structures with J-M Tie Pads... prevent cutting and abrasion

TIE REPLACEMENT IS SO COSTLY and troublesome... particularly in critical areas... every track program should provide for Johns-Manville Tie Pads.

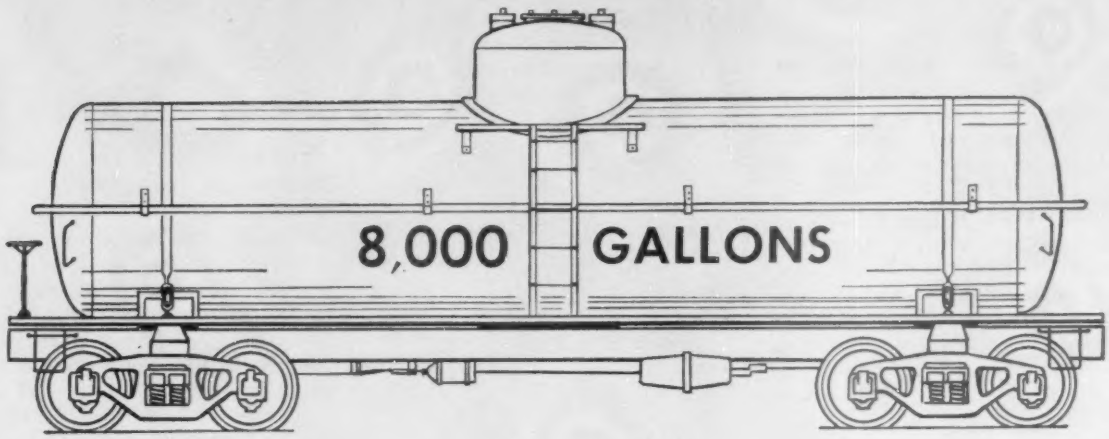
J-M Pads absorb impact shock, help isolate the transmission of noise and vibration. They serve as durable protective cushions, seal out dirt and moisture, prevent abrasion and cutting.

Formulated for low compressibility, high recovery and low plastic flow, J-M Tie Pads offer good resiliency and flexibility over the widest temperature ranges encountered in service. They are resistant to creosote, diesel and lubricating oils, brine, water and freezing and thawing.

Available in all standard sizes, J-M Tie Pads are furnished plain, or with a special coating on one side. For detailed information on Tie Pads or other Johns-Manville products, get in touch with your J-M Representative, or write Johns-Manville, Box 60, New York 16, N. Y.

JOHNS-MANVILLE JM PRODUCTS **Johns-Manville** 97 YEARS OF SERVICE TO TRANSPORTATION

Save a Tank Car of Oil*



every year

with every

Vapor WATCHMAN heater

* Actually 9,308 gallons in Chicago's average temperature; 9,746 gallons in Jacksonville's average temperature.

It's the greatest money-saving buy in railroading history. Idling Diesels burn approximately 3½ gallons of oil per hour...Automatic Vapor *Watchman* Heaters keep idle Diesels safe, warm, fully expanded, ready for the road winter and summer—while using at most 10 pints of oil per hour in weather as severe as 50° below zero. A single *Watchman* Heater on a diesel locomotive saves *over* a tank car of fuel in a year. A hundred locomotives so equipped could save over 100 tank cars of fuel in a single year!

Ask for the savings in your location

VAPOR HEATING CORPORATION

80 E. Jackson Boulevard, Chicago 4, Illinois

NEW YORK • ST. PAUL • WASHINGTON • PHILADELPHIA • ATLANTA • SAN FRANCISCO • HOUSTON • RICHMOND • LOS ANGELES • ST. LOUIS

IN CANADA: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3, Quebec.

Vapor Export Corporation • Vapor International Corporation, Ltd., Room 1400, Railway Exchange Bldg., Chicago 4, Ill.

WHAT'S NEWS in Products

CTC FOR LIGHT TRAFFIC

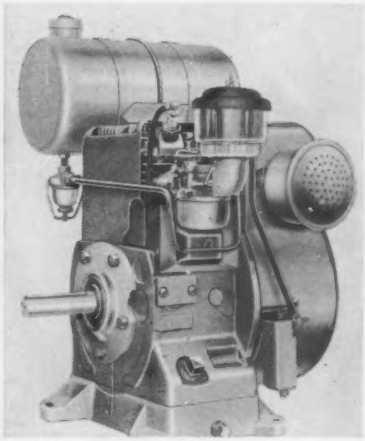
A new, low-cost centralized traffic control system for light traffic lines, which is closely comparable in cost to automatic block signals, has been developed. The new system is said to be in full compliance with ICC regulations, with signal aspects in accordance with AAR standards.

This light traffic CTC operates on the basic, time-tested principles on CTC for heavy traffic, and the control machine is similar in appearance and operation.

Where train operations are becoming more difficult to control with the time table, train-order method because of great distances between open offices, and where it is a problem to secure trained operators, CTC for light traffic can be installed to provide not for only increased safety, but also more economical and efficient operation. The basic system can readily be expanded in part or in its entirety to accommodate possible future traffic requirements. *Union Switch & Signal Division of Westinghouse Air Brake Company, Pittsburgh 18.* •

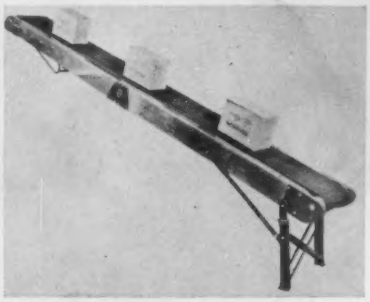
ALL-PURPOSE TRACTOR

Replacing former Tow-Bear models, this new "All Purpose Model" tractor will handle up to 4 tons at a set speed of 5.75 mph; torque and speed may be altered to meet special requirements. Operating on a 12-volt battery, the unit has dual controls which permit operation while walking on either side or from the operator's platform. This three-wheel tractor is 72 in. long and 31 in. wide and is hydraulic-electric operated. A 110-volt a-c charger is built in. The unit also is available with a 6.5-hp gasoline engine. *Tow-Bear Division, Hudson House, Inc., Dept. RA, Portland 14, Ore.* •



LIGHTWEIGHT GASOLINE ENGINE

An engine developed primarily for use as a prime mover for lightweight, portable electric generating plants, is being offered as a single unit. The Onan Model AJ is a single-cylinder, air-cooled, 4-cycle, gasoline-powered engine developing 5.5 hp at 3,600 rpm. Weighing only 86 lb, the engine has a 2¾-in. bore; 2½-in. stroke; 14.9-cu in. piston displacement, and a compression ratio of 6.25:1. It has a removable aluminum alloy cylinder head and a fully counter-weighted, balanced crankshaft. The engine has a high-tension magneto ignition and is started by a manual pull-rope, although recoil or electric starting is available. *D. W. Onan & Sons, Inc., Dept. RA, Minneapolis 14, Minn.* •



PORTABLE BELT CONVEYOR

This lightweight and maneuverable belt conveyor, with a total distributed in stacking or in loading and unload capacity of 250 lb, can be used loading trucks and railroad cars. The unit shown has overall width of 16 in., with a 10-in. belt, and is available in lengths from 6 to 20 ft. The moving belt operates at the rate of 65 fpm. A larger model of the conveyor is 18 in. wide, with a 12-in. belt, and can handle fully distributed loads up to 300 lb. Weight of the smaller conveyor ranges from 145 to 225 lb, and for the larger unit, up to 285 lb.—*Colson Corporation, Dept. RA, Elyria, Ohio* •

ABRASIVE COATING FOR BETTER FOOTING

A rubber-based compound is used to impart anti-skid properties to metal, wood and concrete surfaces. Known as DC 1005, the compound is said to leave an abrasive-type surface providing better footing and traction on floors, stairsteps, inclined ramps, catwalks, etc.

The anti-skid compound is frequently used on floors around machines, where oil or coolants may cause hazardous conditions.

The manufacturer recommends that the compound be applied in a thin, uniform coat about 1/16 in. thick over the area to be skidproofed. It can be obtained in various colors as desired and applied by either a brush, trowel or heavy-duty spray equipment. *Daubert Chemical Company, Dept. RA, 333 N. Michigan ave., Chicago* •

When you think of

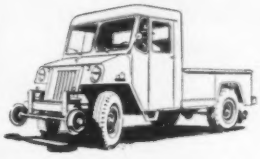
MODERN TRANSPORTATION

. . . think of

Fairmont

A34 SERIES A HY-RAIL CAR offers a Pontiac Station Wagon body; a rugged 205-h.p. V-8 engine; Hydra-Matic drive; power braking and steering. Rail wheels are operated hydraulically and are locked in position mechanically. Load capacity: eight passengers or driver plus 1050 lbs.

A32 SERIES B HY-RAIL CAR is powered by a 6-cylinder, 113-h.p. engine and offers four-wheel drive and three-speed transmission with underdrive. Load capacity: 1500 lbs. Primarily for inspection and maintenance service.



A30 SERIES B HY-RAIL CAR, which travels on both road and rail with equal ease, is powered by a rugged 6-cylinder, 115-h.p. engine. Will carry as many as 10 men under ordinary driving conditions. 2200-lb. load capacity.

No question about it—modernization has become the keynote of railway operations everywhere. And in maintenance transportation, too, modern product development is having a profound effect. Pacing this development are Fairmont's remarkable Hy-Rail cars—a new concept of maintenance transportation that completely eliminates time-consuming "change-overs" and permits "origin to destination" travel of both equipment and personnel. All Fairmont Hy-Rail motor cars operate with equal ease on road and rail. On the highway, they perform as ordinary road vehicles . . . while on the track, guide wheels position the car for rail operation. A wide selection of Fairmont Hy-Rail cars is currently available . . . and if you are interested in obtaining further details on this new, modern means of maintenance transportation, we will be most happy to give you complete information.

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINNESOTA

MANUFACTURERS OF INSPECTION, SECTION AND GANG CARS, HY-RAIL CARS, MOTOR CAR ENGINES, PUSH CARS AND TRAILERS, WHEELS, AXLES AND BEARINGS, BALLAST MAINTENANCE CARS, DERRICK CARS, OIL SPRAY CARS, GROUTING OUTFITS, TIE RENEWAL EQUIPMENT, RAIL RENEWAL EQUIPMENT, WEED CONTROL EQUIPMENT.

How the Chicago Great Western Prevented a Costly Derailment

. . . with switch targets of "SCOTCHLITE" Reflective Sheeting

Through the dark night of January 7th, Chicago Great Western's passenger train No. 14—bound for Omaha—approached the Lyle, Minnesota stop crossing. In the beam of his headlight, the engineer spotted the vivid warning of a red switch target of "Scotchlite" Reflective Sheeting indicating that the switch was wrong. Immediately he applied his brakes in emergency. Result: only the forward trucks of the engine were derailed. Train 14 was on its way again with minimum delay.

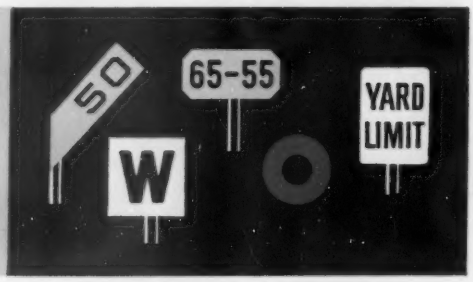
Says E. T. Reidy, V.P. and General Manager of Chicago Great Western: "The diesel probably would have overturned if the engine hadn't picked up that reflectorized switch target."

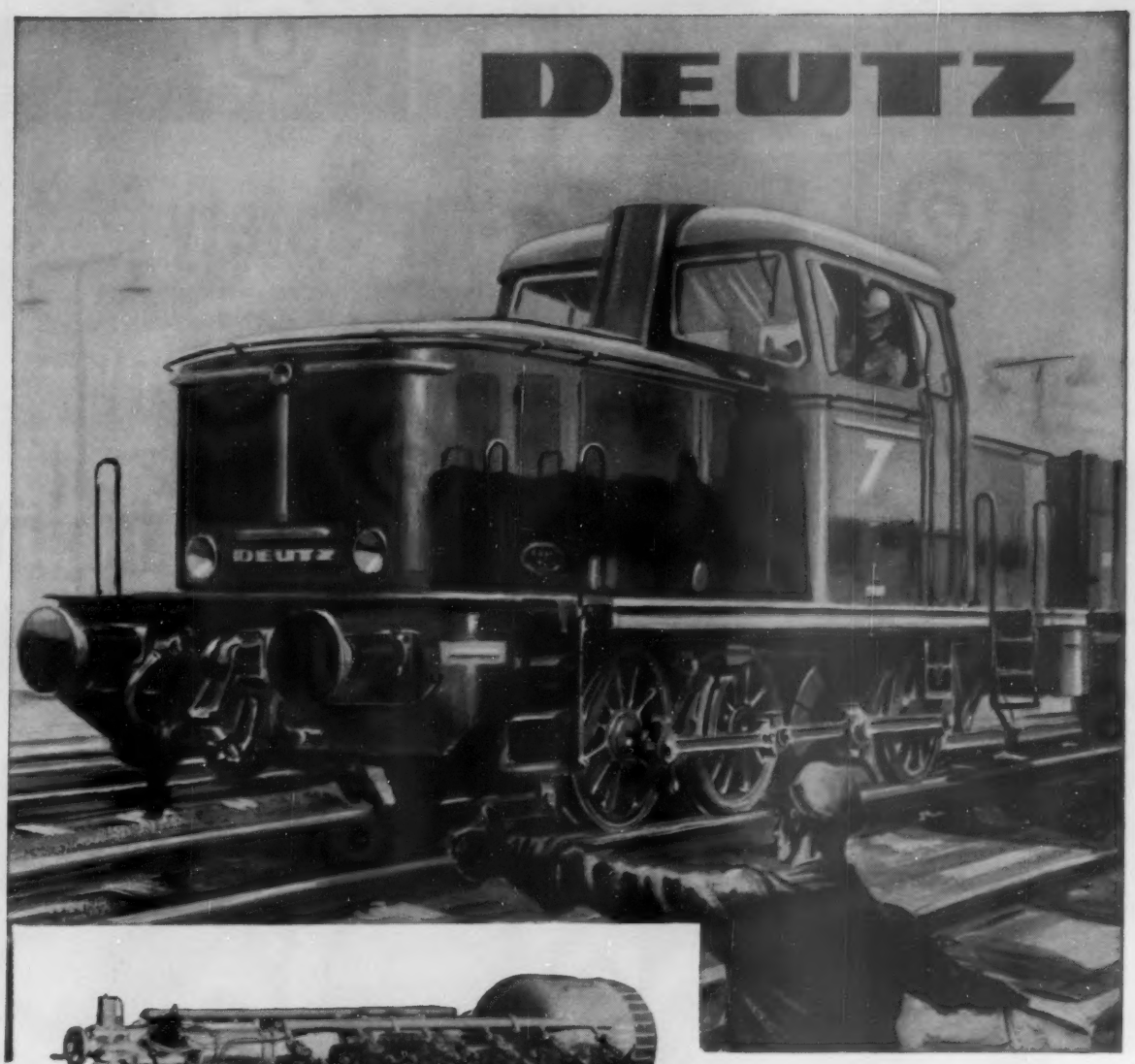
Switch targets of "Scotchlite" Sheeting—*as visible by night as by day*—are far safer than painted targets. They are self-cleaning, give dependable all-weather protection . . . and years of low-cost, trouble-free service. For full details, write Dept. FQ-8206, Reflective Products Division, 3-M Company, St. Paul 6, Minnesota.

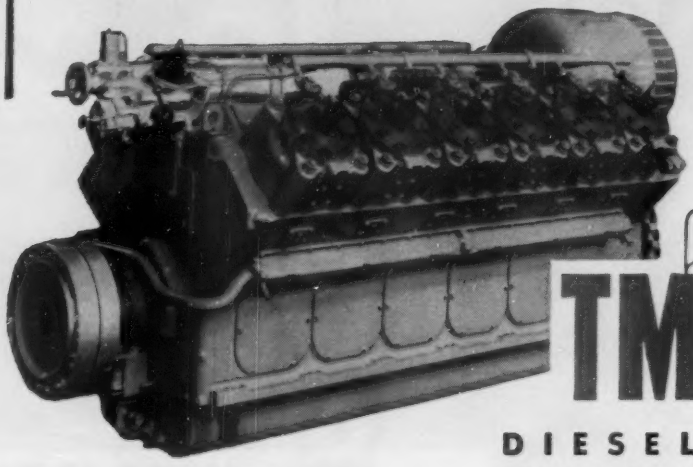
Signs of "SCOTCHLITE" Reflective Sheeting Give Safe 24 Hour Train Control

WIDE ANGLE FLAT-TOP®
REG. U. S. PAT. OFF.
SCOTCHLITE
BRAND
REFLECTIVE SHEETING

The terms "Scotchlite" and "Flat-Top" are registered trademarks of Minnesota Mining & Mfg. Co., St. Paul 6, Minn. General Export: 99 Park Avenue, New York 16, N. Y. In Canada: P. O. Box 757, London, Ontario.







TM 625

DIESEL LOCOMOTIVES
powered by slow-speed 2-stroke DEUTZ diesel engines and equipped with hydraulic transmissions, for shunting and line service, with 4 to 12 cylinders, output ranging from 240 to 2000 HP

KLÖCKNER-HUMBOLDT-DEUTZ AG. KÖLN

DIESEL ENERGY CORPORATION
143 Liberty Street, New York 6, N. Y.

USS MULTIPLE-WEAR

-for Safety

-for Economy

-for Dependability

SEE The United States Steel Hour. It's a full-hour TV program presented every other week by United States Steel. Consult your local newspaper for time and station.

WROUGHT STEEL WHEELS

Today's passenger trains, operating at higher speeds and under more rigorous service conditions than ever before, naturally continue to use Multiple-Wear Wrought Steel Wheels. Multiple-Wear Wheels, made by United States Steel, assure the highest degree of performance and dependability.

The secret of such outstanding wheel performance and long life lies in the Wrought process. Basically, the steel from which the wheels are made possesses inherent strength and toughness to resist hard wear and severe impact. Through the Wrought process, this quality steel is forged, rolled, control-cooled, and heat treated to produce a remarkably durable wheel of unequalled soundness — a wheel that is preconditioned to take severe braking and high-speed impacts.

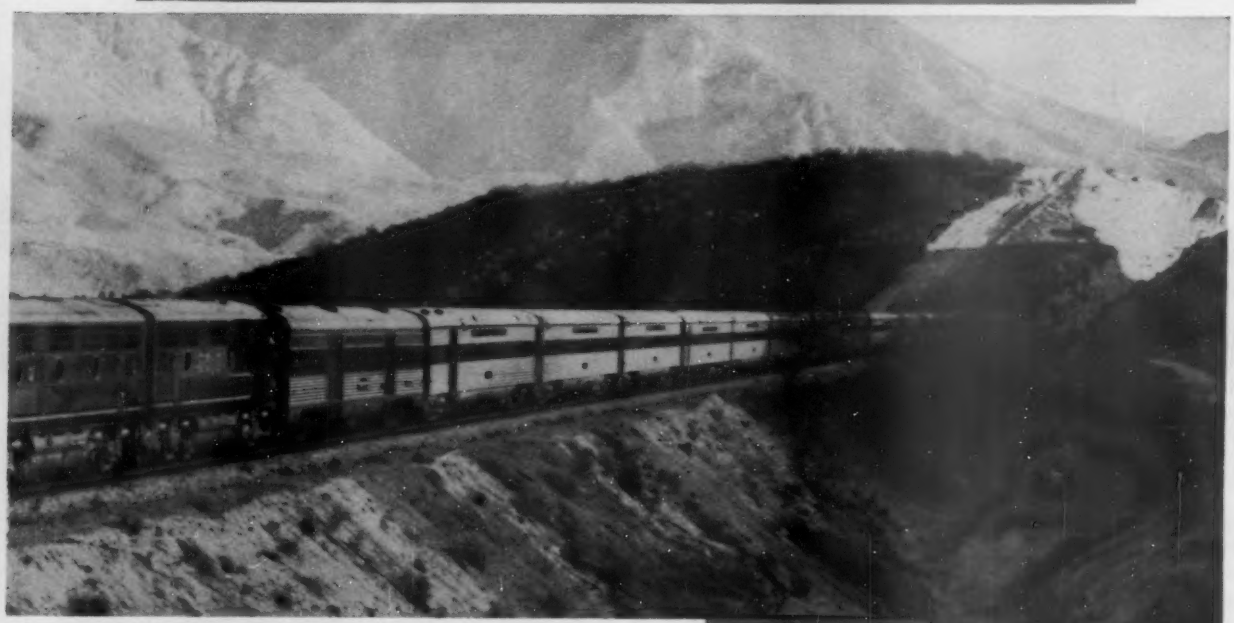
When you order Multiple-Wear Wheels, specify "United States Steel—USS"—the brand that has built-in quality and dependability.

Two strategically located, complete wheel plants are ready to fill your orders for Wrought Steel Wheels: The McKees Rocks (Pittsburgh), Pennsylvania plant, serving East and Southeast, and the Gary, Indiana plant, supplying the Western and Southwestern Lines.

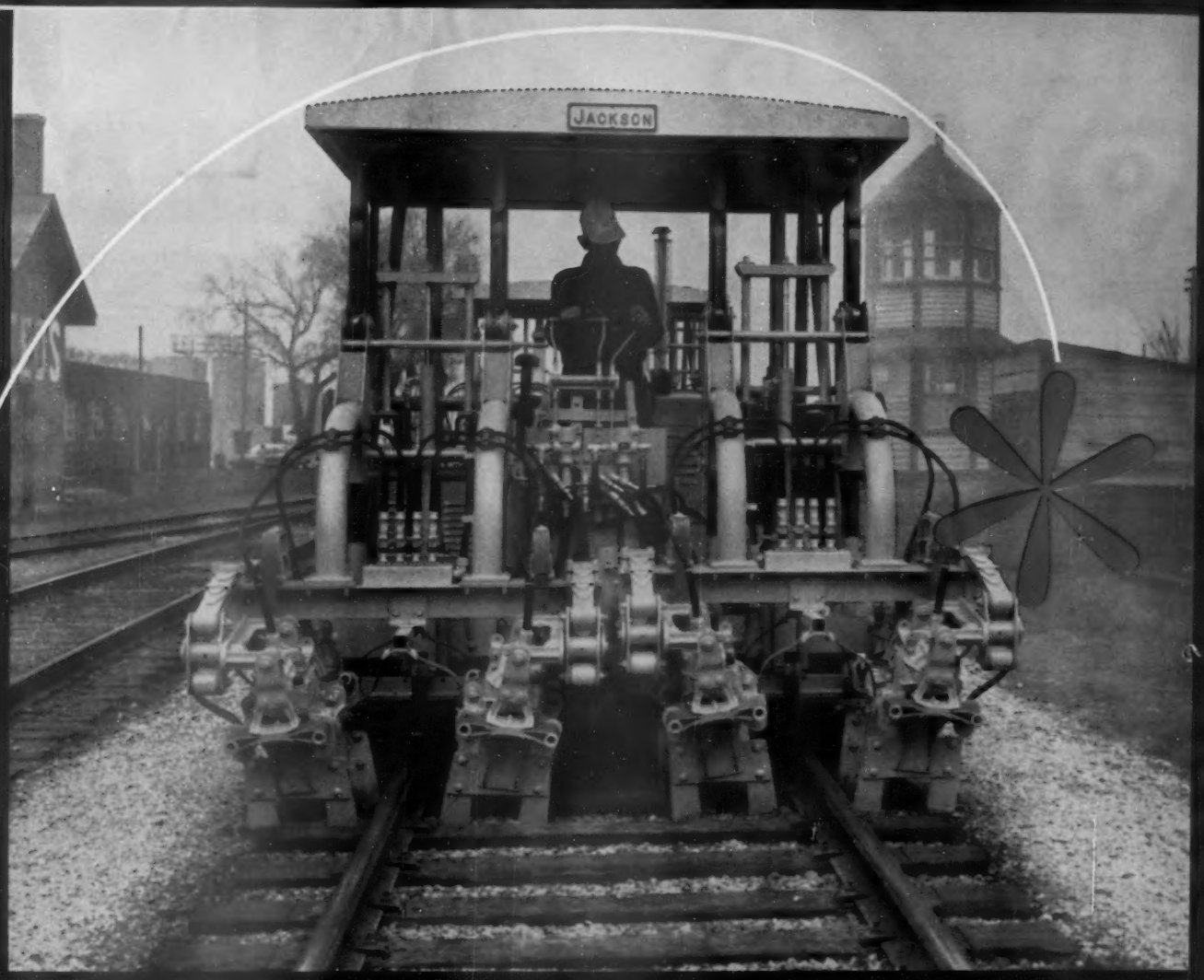
UNITED STATES STEEL CORPORATION, PITTSBURGH, PA • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

UNITED STATES STEEL



STEEL WHEELS



JACKSON TRACK MAINTAINER

The evidence of this machine's great superiority as a means of both putting up and maintaining track of finest quality — in any ballast, under ALL conditions — is so preponderant that we confidently predict neither you nor any track chief who possesses the complete facts will specify any other. By all means write, wire or phone for complete information before making any commitments.

Acquirement plans to suit your needs.

JACKSON VIBRATORS, INC.

LUDINGTON, MICHIGAN

What Schooling For Management?

Do railroad officers and "middle management" need to go back to school—as a help in improving the quality of their performance? Many and perhaps most railroad managements are, by their actions, answering this question with a YES. In our issue of July 2, page 7, we summarized the management education programs of the railroads which are most active in this area.

The goals of this educational endeavor vary. They include (1) bringing the knowledge of officers abreast with modern management techniques; (2) giving men who are highly specialized in one department a broader perspective of business as a whole; (3) getting railroad men intimately acquainted with officers holding parallel positions in other industries—thus offsetting the tendency toward isolation and "inbreeding"; and (4) giving the minds of these officers a work-out on unfamiliar problems.

The university programs designed for management, at or near the top, usually make no effort to concentrate attention on the peculiar or specialized problems of any one industry. In institutions employing the "case system" (e.g., Harvard Business School), the "cases" which the classes discuss are drawn from a wide range of different businesses. In other words, a railway officer can take one of these courses and not know one thing more about the railroad business when he finishes than he did when he started—but he'll probably know a lot more about management principles and about business as a whole.

For a man in a managerial job on a railroad to improve his performance through education, he may pursue studies in either of two directions—(1) he may intensify his knowledge of railroading or (2) he may add to his knowledge of sound principles of management, including a widening of his cultural background. Whichever of these directions he takes, he should be a better railroad manager as a result.

Specific or General?

One rather paradoxical aspect of company-aided study is that some companies, if they are going to pay an employee's tuition, will insist that the course he takes have some direct connection with his work. By contrast, other companies are equally insistent that the courses the employee pursues shall have no connection whatever with his work. In the first instance, the objective is more intensive specialization—in the other, the goal is to give the man who is already a specialist an outlook beyond his specialty.

It is not only possible but probable that all these educational programs—despite their variety—are equally profitable to the people who engage in them and to the railroads. This follows because any kind of formal educational effort—whether specific or general in purpose—can hardly fail to leave the student with enlarged capacity for effective performance on his job.

The CNR Program

One of the more comprehensive of the railroad managerial educational programs is that of the Canadian National—an eight weeks' session each summer for 50 "middle management" people. The fourth annual session has just recently been completed—which means that approximately 200 CNR officers and supervisors, so far, have had the benefit of this instruction. The courses are given at Bishop's University at Lennoxville, Que., about 100 miles southeast of Montreal—and the CNR group has exclusive use of the school's facilities during the period of the course.

These "staff college" students live together in the men's dormitory and eat together in the college dining hall. Time is provided for recreational activities and a feature of the course is group discussion. Hence, the school offers a further advantage (especially important on a geographically widespread system like the CNR) that interterritorial as well as interdepartmental understanding and friendship are fostered.

This program is not devoted exclusively either to questions of general managerial practice or to specific railroad studies. It provides instruction in both categories. There are a half-dozen experienced university teachers who lead the courses in managerial problems—controls, administrative practice, marketing and the like—while CNR department heads serve as lecturers on the work of their own departments.

For railroad educational programs to grow and improve in effectiveness as rapidly as possible, wouldn't it be helpful if there were more of an interchange—railroad officers who have taken courses in their local areas looking in on the programs of other railroads?

There is one area still left almost untouched by most of these managerial programs—and that is high-level education for specific jobs, e.g., instruction in the highest standards of practice for each division of railroad work—operation, maintenance and so on. There are not even adequate text books on which to base such education. Perhaps "staff college" operation (like the colleges provided by the armed forces) is something that will come along in due time.

Meantime there will be few who will doubt that the present effort should be extended, improved and intensified—because increased effectiveness of management is the one master key that unlocks *all* the doors leading to improved performance.

Up from the Streets in 7 Steps

Using multiple-stage construction plan Jersey Central maintained almost normal operation in dense traffic territory while carrying out $6.7-million crossing elimination project

STEEL GIRDER is being set into place for new bridge over Richmond street, which is needed to provide access to new coach yard at Plainfield.

EXISTING STRUCTURE over Richmond street had to be raised by jacks to provide the same road clearance as the new bridge.

NEW STATION at Dunellen, N.J., has ticket office at lower level and waiting room at upper level. Elevator raises baggage trucks.

When the Public Utility Commission of New Jersey ordered the Central of New Jersey to eliminate highway-railroad grade crossings at four streets in Dunellen, N.J., and one in Plainfield, by elevation of the road's four main tracks through that area about 16 ft, it was up to the railroad's engineers to work out a method of construction which would entail a minimum of interference with railroad and vehicular traffic.

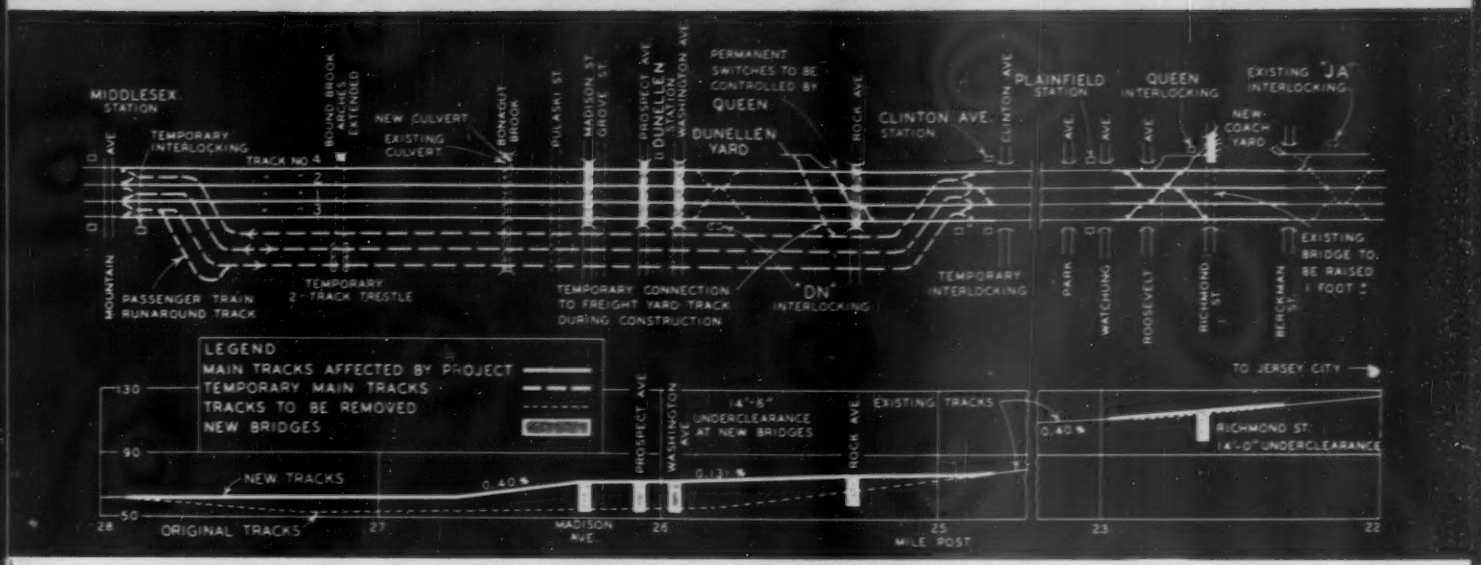
This line carries Reading and Baltimore & Ohio trains in and out of the Jersey City terminal, in addition to the heavy commuter service of the Jersey Central itself. On the five working days of the week, an average of 126 trains daily moved through the territory.

Study revealed that it would be possible to build three detour main tracks south of the existing tracks for use while the permanent grading work was carried out. Three detour tracks were considered essential to handle the traffic without intolerable train delays.

It developed that the existing coach yard at Plainfield would not be accessible after the main-track elevation, so construction of a new yard was required. Industries served by spurs on both sides of the main line had to be afforded service during the construction period, and after the elevation was completed.

Work on the project began April 15, 1953. In June 1956 all of the elevated permanent tracks were lined over at the ends of the detour and connected with their respective undisturbed portions, thus completing the track-elevation cycle, leaving only some temporary facilities to be removed.

The total cost of this 3-year grade-crossing elimination project is $6.7 million, of which 15 per cent was borne by the railroad. The concrete work, bridge work and grading were done under contract, and the track work was handled by railroad forces.



HERE'S HOW THE WORK WAS DONE

STAGE 1

New coach yard built at Plainfield
Queen interlocking installed
JA interlocking removed
Richmond street bridge extended and old section raised
Three detour tracks, built, connected to main-line tracks by No. 20 equilateral turnouts for 50-mph speed
Temporary interlockings placed at ends of detour, operated by electropneumatic switch controls
Dunellen station relocated to serve customers while project progresses
One culvert extended; one lined with Armco corrugated tunnel liner plates and backfilled with concrete
Grade crossings at 5 streets extended across three detour tracks

STAGE 2

Traffic shifted to new detour tracks; center track used eastbound in morning, westbound in evening
Temporary connections to Dunellen yard and industry tracks put in
Four main tracks taken up
Dunellen interlocking removed

STAGE 3

Retaining walls started
Four new bridges built over streets
Embankment placed for tracks No. 2 and 4
Two highway grade crossings closed
Permanent westbound and temporary eastbound station built at Dunellen on high level

STAGE 4

New high-level tracks No. 2 and 4 put in service by connections with turnouts at ends of detour
Two detour tracks removed

STAGE 5

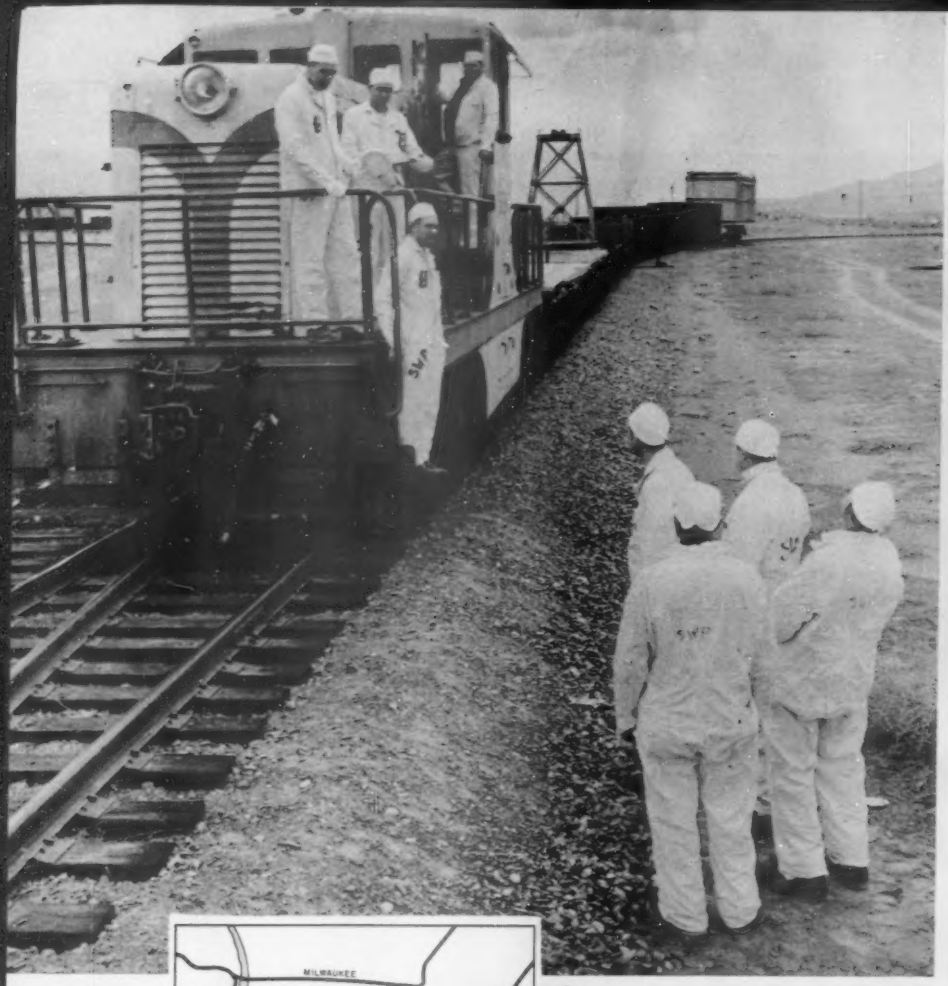
Grading for tracks No. 1 and 3 completed
New bridges completed
Permanent eastbound station at Dunellen started

STAGE 6

New high-level track No. 1 put in service by connections with turnouts

STAGE 7

Last detour track removed
Retaining walls completed
Permanent connections made to industry and yard tracks
New high-level track No. 3 put in service
Streets repaved across right-of-way, depressed as necessary to provide 14.5 ft clearance
Turnouts and temporary interlockings released from service by tie-in of new trackage to existing undisturbed tracks



BLACK CASK CAR, its side clearly marked with a radiation zone sign, is moved over a stretch of track inside the Hanford atomic plant barricade by a project diesel locomotive. Fissioned and transmuted uranium "slugs" from atomic reactors are transported by rail in these cars from reactors to separations plant where uranium and plutonium are separated. Plutonium is a vital atomic bomb ingredient. Trainmen on special runs such as this wear protective clothing as a safeguard against possible radioactive contamination.

Hanford Line

ON DISPOSAL RUN, two-thirds of the way to the burial ground a second crew prepares to take over the task of transporting the radioactive waste to its destination. The timekeeper, recording the exposure being received, orders the first crew relieved when the maximum limit is approached. The relief crew consists of the locomotive engineer, a conductor, a timekeeper, and a radiation monitor to measure the radiation exposure. All are dressed in protective clothing.

CARLOADS OF COAL for steam plants at the Hanford plant are brought by trunk lines as far as the Atomic Energy Commission barricade, and then one of the plant's eight diesel-electric locomotives takes over.

Hauls Radioactive Freight

Along its 150 miles of track in eastern Washington, GE's plant railroad carries uranium and plutonium encased in lead-lined casks which are submerged in water-filled "wells" on specially built cars

In the desert land surrounding Richland, Wash., a different kind of railroad has grown up. It's an atomic line and it handles unusual shipments—fuel elements from the Hanford Works' huge atomic reactors. Despite this problem, and with the job of doing all the regular switching in the 600 sq mi works area, the Hanford line never has had an injury due to radiation.

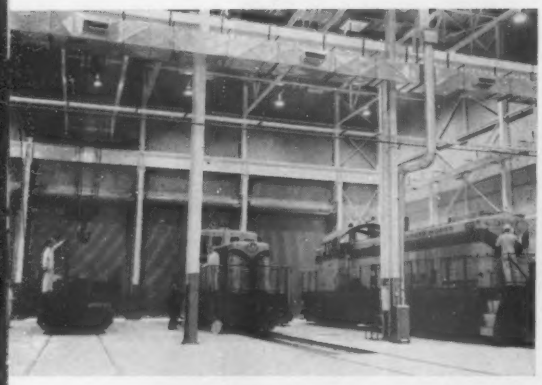
Hanford's line probably qualifies for the title of "hottest railroad," chiefly because of the uranium and plutonium it hauls. Uranium and its man-made companion element, plutonium, are taken from Hanford's atomic reactors in cylinders and transported by rail to other Hanford plants where the two elements and waste products are separated. The plutonium is then shipped to other AEC sites, and the uranium is recovered for reuse. Highly radioactive waste products are siphoned off and buried in the ground or stored in huge underground vaults.

When the uranium-plutonium cylinders, or "slugs" as they are called, are removed from the reactor buildings for shipment to the separation plants several miles away, the radioactive cargo is encased in lead-lined casks and eased into water-filled "wells" mounted on specially built railroad cars. The water helps absorb heat generated by the intensely radioactive slugs. Trainmen assigned to this delicate job wear protective clothing, and only authorized personnel can board the train during its journey to the separation facilities.

Few railroad jobs receive the careful attention that is accorded these vital shipments. Precautions that accompany each operation would do justice to those preceding any railroad's handling of a presidential train. If one of these cars turned over—which has never happened—crews have been instructed to evacuate the area immediately and report the accident to the train dispatcher as soon as possible. All process trains are subjected to regular radioactive monitoring and are thoroughly washed and scrubbed down during periodic decontamination checks.

Success of the Hanford railroad combines years of experience accumulated by railroaders schooled in transportation problems with the knowledge of scientists and engineers dedicated to harnessing the atom for man's use.

When the Hanford plant was first established, it was operated by E. I. du Pont de Nemours & Co. Since September 1946, the General Electric Company has operated the installations for the Atomic Energy Com-



LOCOMOTIVE SHOP in one wing of the transportation center houses two inspection pits, cleaning equipment, and an overhead 45-ton bridge crane.

TRAIN DISPATCHER Barney Cawdrey is one of three dispatchers who coordinate movements of the plant's trains on round-the-clock schedules.

mission. Exact production figures are among the country's most guarded secrets, but the Hanford railroad is operating 24 hours a day, seven days a week to keep pace.

In 1943 when construction began on the vast project on the shores of the Columbia river in southeastern Washington, there were 25 miles of track in the region selected as the site for the Hanford plutonium plant. The line, owned and maintained by the Milwaukee, stretched over an expanse of sagebrush and dunes from Riverland to the little town of Hanford, Wash. It was part of a branch from Beverly to Hanford.

Growth of Hanford

From this piece of track sprang a line which today boasts 150 miles of some of the most important railroad track in the world. The original 25 miles of track were purchased by the government when the town of Hanford and more than 600 sq mi of the surrounding countryside was set aside for developing the secrecy-shrouded atomic project. Additional track was laid as new facilities went up.

During the heavy construction period, when more than 50,000 construction workers swarmed into Hanford to swell its original population of 250 persons, between 55,000 and 60,000 car movements a year were commonplace. Today, the figure is closer to 30,000 car movements annually. More than 8,500 major pieces of construction equipment were used on the job. Lumber sufficient to build a six-foot fence between San Francisco and New York went into the building of the Hanford atomic plant. Concrete, steel and other materials were measured in the thousands of tons. Most of it was handled by Hanford's railroad. Enough material was shipped in by rail to fill a train of box cars 350 mi long. At the peak of the building boom, 29 crews worked on the atomic project's railroad. Today, eight crews do the job of meeting the plant's needs.

Three connecting railroads serve the plant. The Union Pacific and Northern Pacific deliver their trains to a classification yard at North Richland, and the Milwaukee delivers trains to a classification yard at Riverland on the western perimeter of the plant area. Materials are hauled by these lines to, but not inside, the project. At the barricade, all materials being received have to be moved in by plant locomotives on plant track. Interchange is carried on in much the same manner as between any common carriers.

Rolling Stock

Yards in North Richland can accommodate 392 cars. The yard at Riverland can handle 492 cars. Among the Hanford rolling stock are gondola cars, flat cars, ballast cars and other standard pieces of heavy railroad equipment, plus specially built cars for handling process materials. Eight locomotives keep the flow of materials and equipment moving. The motive power consists of three 500-hp General Electric switchers, and one 1,500-hp and three 1,000-hp Alco road switchers.

Although the Hanford system serves only a comparatively small area, it sets an impressive annual mileage figure. Last year, diesels traveled approximately 185,000 mi. The Hanford railroad system was taken over from construction forces in September 1944 by the old operating department. Today it is part of General Electric's transportation section, a segment of the manufacturing department.

Repair Facilities

Complete repair facilities for the rolling stock and the locomotives are maintained. The railroad equipment, located in one of three sections of the plant maintenance shop, shares 90,000 sq ft of floor space with equipment servicing a fleet of buses, project trucks, automobiles and other vehicles and construction gear. Nearly every job that needs to be done can be performed there. There is equipment for accomplishing every job, including complete locomotive overhaul, with the exception of wheel turning facilities.

Barney Cawdrey, a veteran of years of service with the Union Pacific, the Spokane, Portland & Seattle, the Western Pacific and the Northern Pacific, is one of three dispatchers who sits in the nerve center of the Hanford line and controls the movement of every train. Tuned to him on the two-way FM radio system are trainmen in the locomotives, section bosses and a roadmaster and a yardmaster riding in radio-equipped trucks and automobiles. Positive block train dispatching is used in Hanford.

Thirty-one employees work on the line, including eight conductors, 11 switchmen, eight engineers, three dispatchers and one weighmaster. Seven of these railroaders have at least 10 years of service at Hanford. Eleven had train and engine service before joining the Hanford line. All others have been trained in railroad service at the atomic plant. A constant training program has been maintained at the plant for men interested and qualified to seek higher positions on the line. So far, the program has turned out seven locomotive engineers who were working as trainmen before advancement. The program also has created seven qualified conductors. It's interesting work, it's close to home, and there's not another railroad like it anywhere in the country, they all agree.

BEFORE: An Interurban Traction System

Sharp curves and streets were—and still are—the big problem on the Illinois Terminal. IT passenger service once looked much like this, but almost all such operations have been discontinued. Still running, however, is this Granite City-St. Louis local service. It costs the road $200,000 out-of-pocket each year.

NOW: A Dieselized Freight Road

Today, green and yellow diesels pull tonnage freights over the rails where interurbans used to hum. Diesel powered freights like this one are a symbol of progress on the Illinois Terminal. The road's modernization program has completely replaced 45 electric and 22 steam locomotives with 37 new diesel units in the past five years.

Illinois Terminal Looks to Future

Its new owners plan to continue independent operation, to push industrial development, and to appraise possible operating economies through use of trackage rights over paralleling railroads

Key to Illinois Terminal's future lies in its recent purchase by a group of ten railroads for $20,015,635 (Railway Age, Apr. 23, p. 12).

A new company, the Illinois-Missouri Terminal Railroad Company (the name has subsequently been changed to Illinois Terminal Railroad Company), was organized by the proprietary roads to take over and operate the property.

Sale was approved by the Interstate Commerce Commission, effective June 11, and the transfor of property took place June 15.

Officers of the ten owning roads have been elected directors of the new company. Arthur K. Atkinson, president of the Wabash, was elected temporary president by the new board of directors. Five general officers of the old Illinois Terminal were reelected to the same positions with the new company.

"We will not only continue to operate Illinois Terminal on an independent basis, but with the amalgamation of these railroad interests, their experience, their credit and equipment ownership, we plan to improve service," Mr. Atkinson told Railway Age.

In short, the benefits add up to this: Illinois Terminal will have a greater supply of freight cars readily available to the line's customers; the new owners will aid in industrial development; capital will be more readily available upon favorable terms; and the increased stability of the property will benefit the public, the Illinois Terminal, and its employees.

The new owners will also appraise potential economies in operation and maintenance through use of trackage rights over paralleling railroads.

When Illinois Terminal electric lines were built, "follow the dirt" construction techniques were used. The resulting roadway had sharp curves, steep grades and track in city streets. Generally, cinder ballast was used, which is now crushed fine and has lost its usefulness as ballast. As a result, the IT is saddled with high maintenance-of-way costs for a roadway which does not conform to the standards of present-day operations.

120 Miles Abandoned

High roadway costs for the electric lines contributed to the abandonment of some 120 miles of marginal trackage between 1945 and 1953. Belt lines were constructed in the 1920's around Springfield, Ill., Edwardsville and Decatur to avoid the city streets and to permit carload freight operations. Trackage rights

were negotiated with the Illinois Central and the Wabash in the early 1940's to remove Terminal trains from the streets of Champaign, Ill., and Urbana. Recently, trackage rights over the Pennsylvania through Morton, Ill., have become effective.

The new owners told the Interstate Commerce Commission that many opportunities will be afforded for economies in operation through trackage rights. It was pointed out that IT tracks parallel some lines of the new proprietary companies and that these railroads will be more willing to grant trackage rights on favorable terms as a result of the acquisition.

IT gets along with fewer locomotices today and carries more freight traffic than it did five years ago. In December 1947, the road owned 45 electric locomotives, ranging in age from seven to 30 years, and 22 steam engines. By last December, the IT had replaced all of these with 37 diesel-electric locomotives. In 1950 the IT handled 190,000 loaded freight cars. The figure was up to 219,000 in 1955.

Diesels cut 30 minutes from the 150-mile Edwardsville-East Peoria freight schedule and also boosted tonnage when they replaced the electrics. "Tonnage for our electric locomotives was 1,750 tons between Edwardsville and East Peoria, while today three GP-7's can pull 5,000 tons over the same line," reports F. L. Dennis, vice-president—operations.

Passenger Service Ended

Since 1920, IT's passenger revenues have declined steadily, but freight revenues have pushed upward. In 1950 the IT had a $1 million out-of-pocket loss from interurban passenger operations. A program to eliminate these unprofitable trains began in 1954 and was successfully completed on March 3, when the last main line passenger train was discontinued.

A St. Louis-Granite City street car line and several local bus lines in the Granite City-East St. Louis area are still operated by the railroad. Annual losses from these operations total over $200,000.

The Illinois Terminal's trackage between East Peoria, Ogden, and St. Louis, Mo., was constructed some fifty years ago for electric interurban passenger service. No freight was handled on these lines unitl 1920, when the Illinois Traction, predecessor of Illinois Terminal, inaugurated carload freight service and published joint rates with the Rock Island.

Railroading

After Hours

Modern "Boomers"

by James G. Lyne

Editor, Railway Age

There are two railroaders I've visited with recently who disprove the commonly accepted belief that there are no longer any "boomers" in the railroad business. These men are John Barriger, recently elected president of the P&LE, and Loyd Kiernan, retired executive vice-president of the B&M.

Moving around to different jobs is the traditional way that medieval craftsmen acquired highest skills at their trade—hence the term "journeyman." The old-time railroad boomer continued this historical process—and there would be few to deny that such varied experience developed able operators.

Certainly Messrs. Barriger and Kiernan give evidence of the value of the variety of their experience. Mr. Kiernan, until the mid-thirties, had spent his entire career with the Illinois Central—lastly as a traffic analyst. He then went to Equitable Life as a railroad analyst—and was "borrowed" by the AAR during World War II to serve as secretary of the research group usually designated as the "Fletcher Committee"—from the name of its distinguished chairman.

When this research committee finished its labors, Mr. Kiernan stayed on with AAR—as manager of special services in the public relations department. In this job he showed great versatility at locating hard-to-get information. One of his specialties was railroad practices in foreign countries, especially Latin America—in the course of which endeavor he acquired a good working knowledge of the Spanish language.

Early in 1955, Mr. Kiernan left the AAR to become executive vice-president of the B&M—from which position he retired at the end of the year for reasons of health. Since then he has already performed two major research jobs (one of them in Chile), and he has now gone to Spain on a four months' hitch as a consultant for the railroads of that country.

From Childhood

John Barriger's career is so generally known that it is probably superfluous to record it. He has been a railroad enthusiast and student seven days a week for at least 45 years (i.e., since the age of 10). He has been a friend of mine for 34 years—and during that time I know of 12 different full-time jobs he has been on, not counting numerous part-time assignments.

These jobs have included heading the RFC's railroad division, vice-presidencies of two railroads, and presidencies of two others. JWB has drawn from his rich experience to write his informative and provocative book "Super-Railroads for a Dynamic American Economy," which, as a publisher, I am glad to report is going into its second edition.

Booming is such an effective educational device that, where it's difficult or impossible to achieve by natural means, maybe it ought to be simulated artificially. Perhaps railroads could profitably "exchange" superintendents or other officers, temporarily, as the colleges do with professors.

The CofG Accents the Positive...

COMPARE
...Then take the train!
ATLANTA to SAVANNAH
Round trip travel costs
Streamliner Nancy Hanks ..... (incl. tax) $9.67
Bus Fare ..... (incl. tax) $12.21
Airplane Fare ..... (incl. tax) $33.79
Auto Cost ..... (incl. tax) $37.80
Nancy Hanks Schedule
Lv. Atlanta ..... 6:00 P.M.
Ar. Macon ..... 8:05 P.M.
Ar. Savannah ..... 11:55 P.M.
Lv. Savannah ..... 7:30 A.M.
Ar. Macon ..... 11:15 A.M.
Ar. Atlanta ..... 1:20 P.M.
Telephone WAlnut 8181 for reservations
NOW! 15 day round trip limit—allowing ample time for vacations and those 1-a-n-g weekends. Ask your Central of Georgia representative for details.
CENTRAL GEORGIA RAILWAY
...the Right Way
CENTRAL OF GEORGIA RAILWAY

NEWSPAPER ADS, like the one at left, drive home a message of low cost, convenience and comfort. The Central concentrates most of its advertising and promotion effort in a relatively few metropolitan areas offering good market potential.

A HUMAN INTEREST STORY will catch the public's eye. Advertisements, like the one at right, have been used effectively in winning community support in train-off cases.

. . . Even When It's Negative

- Hard Sell for OK on KO-ing the Clunkers
- Hard Sell for Building up Useful Services

More people are riding the train in Dixie as the Central of Georgia hammers away at a program to upgrade key trains and discontinue the money-wasters.

Evidence that the effort is paying off is provided by the fact that the Central's crack streamliner, "Nancy Hanks II," operating between Atlanta, Ga., and Savannah, carried 2,366 more passengers during the first four months of 1956 than during the same 1955 period.

The railroad reports that its efforts to shave operating expenses, discontinue non-productive trains and increase efficiency are bringing passenger revenues and expenses closer and closer together.

"Based on actual out-of-pocket costs, the color of the ink has already changed from red to black," the railroad reports. During 1951-55, the Central discontinued 20 trains (10 round trips), and the road now has about reached the point where its remaining trains represent services which are needed and used.

The Central's efforts to brighten its passenger picture stand out against a backdrop that is typical. From 1951 to 1954, passenger revenues on the Central slid from $5.6 million to $3.8 million. They edged back up to $4 million in 1955.

Expenses were going down, too, during this period, from $8.8 million in 1951 to $5.9 million in 1955. The revenue-expense margin was getting thinner, but Central's passenger service continued to be nip and tuck, and clearly a deficit operation when figured on the ICC formula.

In the face of this trend, Central's management embarked on its program—advertise, promote and solicit for trains that have a market; provide top service on these trains; and discontinue those trains which, after determined efforts, cannot be operated without incurring a loss.

The railroad recognized that its passenger "problem" was in several

CENTRAL FEELS THE PASSENGER PULSE

The Central of Georgia uses spot surveys to sample the opinion of its customers about its passenger trains, proposed fare increases or reductions in service. The road has found these surveys provide a good picture of actual conditions on the trains, and also aid in spotting potential trouble spots.

In a survey made last fall on the Atlanta-Columbus train, "Man o' War," the road found, for example, that over two-thirds of passengers who answered the poll said they would continue riding the train if fares were boosted. Nearly 68% of those replying voted against reserved seats; and all but a mere handful indicated satisfaction with existing schedules.

One other item: Asked to cite the type of advertising that attracted them to Central's train, nearly 26% mentioned sign boards. Newspapers, TV and personal solicitation ranked in second, third and fourth places, respectively.

ways peculiarly its own. While some roads are heavy with commuter business, or have a long haul, or both, the Central has neither. The road serves a few metropolitan areas with sparsely populated areas in between. Pinpointed sales efforts not only are possible, but preferable.

Selling Hard

In 1955, the Central began a "hard sell" passenger advertising campaign using more than 100 newspapers, plus radio and television. Recognizing that the road's greatest passenger potential lies in such populous areas as Savannah, Macon, Atlanta and Columbus, the new program concentrated in these areas. Advertisements struck often at the theme that the traveling public is bargain minded; and the ads frankly compared fares of railroads, buses, air lines and private automobiles.

There was no overnight magic from the new program, but signs of a shift soon became evident. As mentioned above, more patrons now are riding the "Nancy Hanks." For the entire road, passenger revenue in the first third of 1956 was up $45,882 over a like period in 1955.

Along with its advertising campaign the Central began pushing for more effective solicitation by passenger representatives; and it installed some highly saleable low-cost round-trip fares between Savannah and Atlanta. Initially restricted to a five-day limit, these lower-than-bus fares now are good for 15 days. The Central credits the time extension with boosting its Atlanta-Savannah volume.

Another facet of the business-building campaign has been Central's efforts to bring back repeat customers by improving service. From this starting point, the road has stepped up its emphasis on on-time performance and has, in some cases, shuffled schedules to improve mail and express service and to simplify train meets. Better maintenance of passenger equipment is in the picture, too, as are efforts to improve the courtesy and efficiency of train crews and agents.

Last Resort: Task Force

When all efforts to make a train pay prove ineffective, however, the Central has a regular program aimed at obtaining permission to remove the train with minimum opposition.

Before making public announcement of its intentions to curtail any passenger-train service the railroad prepares a statement of facts, outlining reasons why discontinuance is necessary. The statement outlines the road's position, and sets forth the expense of operation, number of patrons who use the train over any given period and the out-of-pocket loss incurred by continual operation.

Exhibits attached to the statement show the schedule of the trains under consideration, an analysis of their traffic, and a statement of revenues and expenses resulting from their daily operation. Also included are results of passenger service on the entire system for at least three years, motor vehicle registrations and highway mileages in the territory involved, and bus and other transportation schedules serving the area.

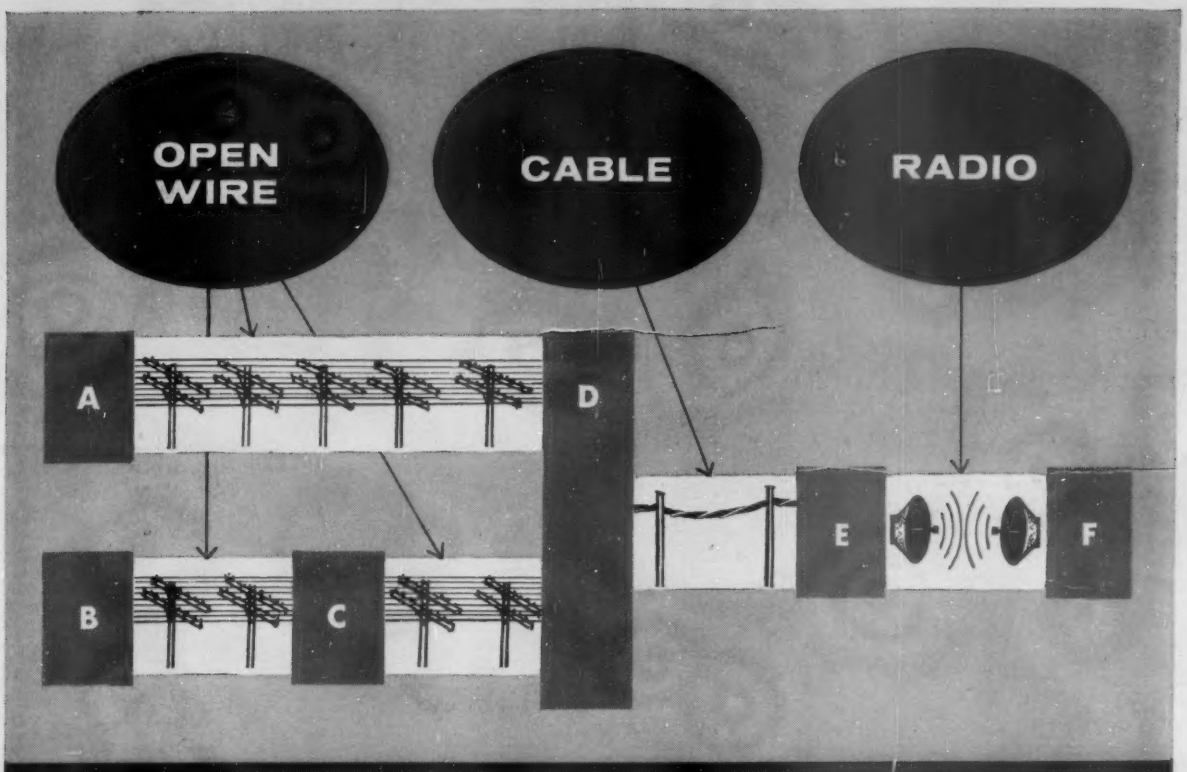
Armed with these facts, Central then sends teams of its representatives into towns and communities which would be affected by a reduction in service, to make personal calls on all persons who might be interested. Each team may include representatives from the operating, traffic, executive and legal departments, along with others who might be helpful, such as the local agent, the superintendent of mail and express or the division superintendent.

These task forces call on shippers, merchants, chambers of commerce, newspapers, civic clubs and other interested parties. If the task force is questioned about mail and express service, it is pointed out that the Post Office Department, and the railroad, will make the necessary arrangements to protect existing service. (Actually, the Central has lost little or no mail or express revenue in train-off cases because the Central's subsidiary, Motor Transport Company, has been able to retain it.)

In addition to visits to community leaders, the Central teams endeavor to secure from city councils and county commissioners statements that they do not oppose removal of the trains and, if consistent with their policy, their approval of the petition for removal. Calls on newspapers aim at winning editorial support or, if that is not forthcoming, to reduce vocal opposition.

The Central recognizes in these cases that a natural public relations problem is involved. So it supplements the work of the community teams in taking the public into the railroad's confidence. Human interest advertisements in community newspapers show losses suffered by the trains in question and tell what effect, if any, the community would feel if the service were pulled off. Railroad officers speak before organizations interested in the case, and the entire program adds up to giving the public the same courtesy and treatment which the railroad itself would like to receive.

With this program in operation the Central has, in the past five years, streamlined its service by the removal of 20 trains with a minimum of disturbance to its relations with the communities and patrons along its lines.



45-CLASS CARRIER NETWORKS

give you direct interconnection

AT CARRIER FREQUENCIES

ABOVE NETWORK INCLUDES:

LOCATION A
Type 45A

LOCATION B
Type 45CB

LOCATION C
Type 45CB base group terminal
Type 45A terminal
1 pre-group connector

LOCATION D
2 Type 45A base group terminals
Type 45BN base group terminal
2 base group connectors

LOCATION E
Type 45BN base group terminal
Type 45BX terminal
2 base group connectors
Radio terminal

LOCATION F
Type 45BX terminal
Radio terminal

Direct interconnection is the basis of Lenkurt's famous 45 "universal" class of carrier systems. Each of these carrier systems —open-wire, cable and radio—is designed to connect directly with the others *at carrier frequencies*. Thus, your entire carrier network can be completely coordinated. Think of the savings and improved performance this means to you! Expensive back-to-back equipment arrangements to convert carrier to voice frequencies, and then back to carrier, are no longer needed. Maintenance is simpler. Distortion is reduced. Here is a new approach to planning and engineering your toll routes.

The systems of the 45 class offer other important savings, too. *Miniaturized* components permit a maximum number of channels in minimum space. *Plug-in construction* means more flexibility in applications and fewer parts to stock. And you save on installation labor because Lenkurt 45-class carrier comes factory-assembled, rack-mounted and tested as a system.

For complete information on any of the Lenkurt 45-type systems, *write:* Automatic Electric Sales Corporation, 1033 West Van Buren Street (HAymarket 1-4300), Chicago 7.
In Canada: Automatic Electric Sales (Canada) Ltd., Toronto.
Offices in principal cities.

AUTOMATIC ELECTRIC

Originators of the dial telephone • Pioneers in automatic control

GENERAL TELEPHONE SYSTEM

AUTOMATIC ELECTRIC • LEADERS IN CARRIER COMMUNICATIONS • **LENKURT**

On the A.R.T.

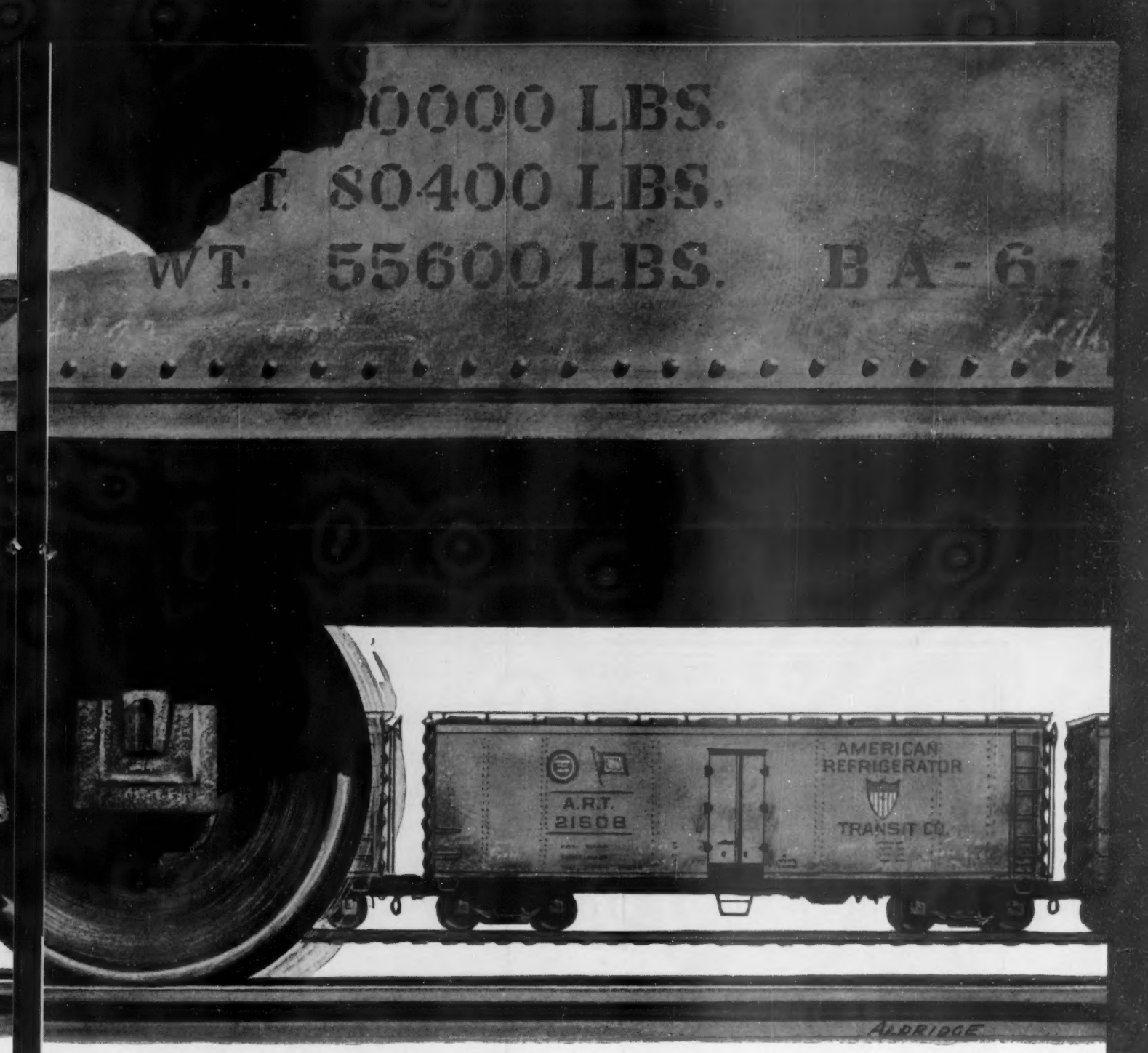
THEY WHET YOUR APPETITE

At any fruit or vegetable counter, the biggest sales-builder of all is the "just-picked" look. That's why the A. R. T. Company has done such a topflight job of providing cars that ride smoothly at higher speeds . . . to bring produce from the orchards and farms to your dinner table safely and quickly.

Is this good service possible only with new cars? Not at all. Older cars—with trucks dating back to the pre-Ride-Control era—are simply brought up to modern riding standards with ASF Ride-Control Packages. Change-over takes only a few minutes and the investment is small—practically nothing, in fact, compared with the way *improved service* retains and *regains* freight revenues.

Safe, prompt arrival of *any* commodity carried on the rails is just as important and desirable as a fresh-looking orange! Further tests on your road will prove how Packages can help you increase *profits* . . . through greater car utilization, better service, fewer damage claims.

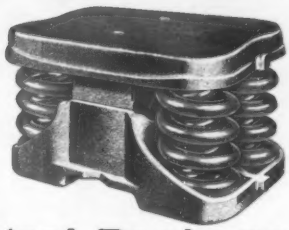
Now is the time to make smooth riding another objective of your general repairs program!



WITH SMOOTH-RIDING CARS!

NOW . . . all ASF Ride-Control Packages are fitted with Extended Life Springs

In appearance, these springs look like any standard truck spring . . . but tests prove they average at least 10 times longer life! Ride-Control Packages offer you a quick answer to smoother riding—and an answer to costly spring failures and replacement.



Bring your older cars up to modern riding standards . . . with

ASF **Ride-Control Packages**

AMERICAN STEEL FOUNDRIES

Prudential Plaza, Chicago 1, Illinois

Canadian Sales: International Equipment Co., Ltd., Montreal 1, Quebec

Fast, inexpensive relief

Only a one-day layover

from Class **"C"** *to Class* **"A"**

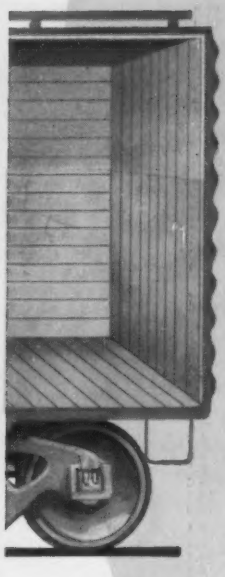
from the Car Shortage

low-cost

Espey

Carliner

makes old cars ***better*** *than new*



At a cost so low it should easily come within present operating budgets, you can transform old cars into top-revenue carriers with *permanent* new Espey Carliner.

It goes on over splintered, but sound wood floors and lining—over cracks, gouges, oil spots—forms an *inseparable* lamination much stronger than wood. Seams, joints, and corners are sealed . . . warping and separation prevented.

Your shippers get what they want and need—good-looking, moisture-free, vermin-proof cars, completely safe for edible lading.

Ease of application, effectiveness in use, and increased car-earnings have all been demonstrated on *many* major roads. Espey Carliner surface-armor will serve you as nothing else can. Write for facts, today.

SPRING PACKING CORPORATION

MR. ESPEY ★ SPRING PACKING CORPORATION ★

For over 36 years

332 S. Michigan Avenue, Chicago 4, Illinois

Freight Operating Statistics of Large Railways—Selected Items

Region, Road and Year	Miles of road operated	Train miles	Locomotive Miles: Principal and helper	Locomotive Miles: Light	Car Miles: Loaded (thousands)	Car Miles: Per cent loaded	Ton-miles (thousands): Gross excl.locos. & tenders	Ton-miles (thousands): Net rev. and non-rev.	Road-locos.on lines: Serviceable: Unstored	Road-locos.on lines: Serviceable: Stored	Road-locos.on lines: B.O.	Road-locos.on lines: Per cent B.O.
New Eng. Region												
Boston & Maine 1956	1,562	258,362	263,711	10,310	10,074	66.6	661,257	272,009	71	..	..	..
1955	1,564	244,644	250,496	9,277	9,885	66.0	635,535	253,767	69	1	6	7.9
N. Y., N. H. & Htfd 1956	1,746	288,433	288,508	21,454	12,455	66.8	791,189	327,247	83	..	16	16.2
1955	1,746	290,684	290,710	18,979	12,593	67.5	775,998	311,373	85	..	8	8.6
Great Lakes Region												
Delaware & Hudson 1956	792	191,808	196,944	6,176	10,076	70.7	692,405	362,171	36	1	4	9.8
1955	792	182,469	188,009	6,474	9,440	70.6	631,870	324,879	36	..	3	7.7
Del., Lack. & Western 1956	962	316,300	329,588	27,300	13,464	67.2	902,472	398,761	63	..	..	..
1955	962	276,975	288,681	21,397	12,448	68.4	804,777	346,219	63	..	..	..
Erie 1956	2,225	609,671	616,125	18,168	33,807	68.1	2,127,018	861,269	163	..	2	1.2
1955	2,224	571,698	579,800	14,521	31,938	68.7	1,987,355	802,906	159	..	5	3.0
Grand Trunk Western 1956	951	303,304	308,886	2,375	9,290	58.2	682,568	274,726	57	..	18	24.0
1955	952	269,671	277,873	2,037	9,114	60.9	634,055	243,554	61	2	18	22.2
Lehigh Valley 1956	1,137	243,848	248,020	8,726	10,988	64.2	786,124	368,532	34	..	1	2.9
1955	1,142	217,984	221,982	6,702	10,949	66.7	746,228	345,465	33	..	1	2.9
New York Central 1956	10,565	2,594,105	2,630,907	132,651	102,756	60.2	7,561,478	3,404,480	547	1	84	13.3
1955	10,661	2,613,220	2,659,771	106,118	106,667	61.3	7,631,705	3,392,251	547	51	104	14.8
New York, Chic. & St. L. 1956	2,154	780,476	800,935	8,551	32,784	64.4	2,349,880	1,066,125	172	..	26	13.1
1955	2,155	738,083	772,593	7,943	31,206	67.6	2,134,362	975,037	174	3	31	14.9
Pitts. & Lake Erie 1956	221	74,712	74,712	....	3,314	69.4	283,249	178,631	15	..	..	..
1955	221	68,396	68,464	....	3,354	71.3	284,919	181,640	13	7	1	4.8
Wabash 1956	2,381	519,128	522,453	6,223	23,536	64.7	1,577,020	616,889	109	..	3	2.7
1955	2,381	551,683	552,828	6,027	24,850	65.6	1,613,412	612,846	101	..	2	1.9
Central Eastern Region												
Baltimore & Ohio 1956	5,910	1,762,698	1,984,080	189,473	69,516	62.4	5,896,086	2,960,687	446	..	71	13.7
1955	6,072	1,658,737	1,847,479	175,841	70,739	63.9	5,468,927	2,711,188	449	2	97	17.7
Bessemer & Lake Erie 1956	208	69,939	75,309	216	3,797	58.4	449,479	285,192	17	..	..	..
1955	208	61,640	67,007	228	3,320	57.6	414,868	269,503	18	..	..	..
Central RR Co. of New Jersey 1956	612	131,211	132,375	6,769	5,097	66.4	381,528	201,432	64	1	5	7.1
1955	613	123,165	123,970	5,219	4,895	66.9	356,876	185,284	61	..	6	9.0
Chicago & Eastern Ill. 1956	868	125,797	125,797	2,556	5,559	68.1	403,790	195,343	28	..	2	6.7
1955	868	116,342	116,342	2,072	5,481	69.0	373,713	185,165	27	..	2	6.9
Elgin, Joliet & Eastern 1956	236	96,267	97,612	....	3,051	63.5	250,840	137,159	38	..	2	5.0
1955	236	89,215	89,495	....	2,919	64.1	234,672	121,037	36	3	2	4.9
Pennsylvania System 1956	9,892	3,246,547	3,483,293	270,891	141,962	65.0	10,599,973	5,171,599	865	..	343	28.4
1955	9,892	3,047,932	3,273,463	256,879	135,246	65.3	9,769,642	4,643,841	811	49	464	35.0
Reading 1956	1,303	372,803	374,838	11,534	14,814	64.7	1,209,293	662,297	162	6	24	12.5
1955	1,303	325,572	328,312	11,660	12,717	64.9	1,002,920	530,527	151	5	26	14.3
Western Maryland 1956	846	179,777	186,941	10,849	7,233	62.6	617,547	350,228	38	..	..	..
1955	846	171,780	178,286	9,728	6,951	64.4	580,245	331,305	37	..	..	..
Pocahontas Region												
Chesapeake & Ohio 1956	5,067	1,645,991	1,667,674	47,911	71,399	57.1	6,312,807	3,547,378	476	9	65	11.8
1955	5,046	1,536,997	1,562,127	46,081	69,638	58.4	5,965,572	3,347,674	379	22	183	31.3
Norfolk & Western 1956	2,103	799,185	846,739	60,055	38,927	58.7	3,688,229	2,049,971	225	4	17	6.9
1955	2,104	716,757	766,180	62,022	36,376	59.9	3,346,483	1,850,095	211	23	32	12.0
Southern Region												
Atlantic Coast Line 1956	5,278	958,734	958,734	10,926	29,737	60.3	2,156,413	948,866	200	..	11	5.2
1955	5,336	947,346	947,349	10,471	31,147	57.6	2,264,956	964,908	236	..	8	3.3
Central of Georgia 1956	1,731	224,004	224,004	2,273	8,739	69.0	604,733	295,295	77	..	2	2.5
1955	1,731	194,315	194,341	1,800	8,355	70.5	562,460	274,985	73	..	2	2.7
Gulf, Mobile & Ohio 1956	2,717	281,069	281,069	466	15,541	69.9	1,039,865	500,919	83	..	8	8.8
1955	2,717	281,359	281,359	162	16,727	71.5	1,094,681	519,041	82	..	7	7.9
Illinois Central 1956	6,532	1,240,639	1,242,579	36,207	50,781	61.6	3,774,325	1,756,957	330	6	122	26.6
1955	6,531	1,281,648	1,283,590	39,009	54,266	62.8	3,914,693	1,797,943	363	53	150	26.5
Louisville & Nashville 1956	4,714	949,995	956,071	17,664	35,729	62.8	2,715,964	1,369,179	180	16	27	12.1
1955	4,715	663,215	668,243	12,451	23,003	62.2	1,817,484	941,855	184	37	9	3.9
Nash., Chatt. & St. Louis 1956	1,043	172,808	177,062	4,285	5,738	73.5	369,548	180,029	51	..	2	3.8
1955	1,043	111,046	112,477	2,429	3,747	70.4	254,900	126,149	49	..	4	7.5
Seaboard Air Line 1956	4,051	710,781	710,781	3,728	27,705	61.3	2,023,364	883,978	145	..	8	5.2
1955	4,053	700,270	700,270	2,957	28,110	61.4	2,048,478	858,802	137	..	9	6.2
Southern 1956	6,259	917,438	917,498	12,674	42,968	67.9	2,820,944	1,312,971	285	..	3	1.0
1955	6,264	994,965	995,025	18,148	48,976	68.1	3,182,582	1,468,945	278	..	3	1.1
Northwestern Region												
Chicago & North Western 1956	7,810	744,830	745,841	8,604	30,618	63.3	2,243,830	933,849	137	2	38	21.5
1955	7,848	716,441	718,471	9,336	32,096	66.5	2,187,116	1,011,024	134	16	45	23.1
Chicago Great Western 1956	1,437	137,759	137,759	215	8,395	68.7	575,087	270,228	31	..	2	6.1
1955	1,437	132,284	132,284	234	8,110	68.5	547,249	251,713	30	..	3	9.1
Chic., Milw., St. P. & Pac. 1956	10,633	971,407	986,759	19,218	43,605	65.6	3,010,012	1,372,507	287	7	9	3.0
1955	10,633	991,420	1,010,095	19,688	44,746	66.7	3,017,684	1,359,722	261	52	25	7.4
Chic., St. P., Minn. & Omaha 1956	1,606	160,197	160,815	3,771	5,408	66.2	375,979	165,031	41	13	22	28.9
1955	1,606	163,152	164,328	4,150	5,434	69.1	366,546	161,914	61	..	12	16.4
Duluth, Missabe & Iron Range 1956	569	159,993	160,680	1,573	7,961	51.0	824,098	496,359	69	4	3	3.9
1955	569	154,961	155,528	1,258	7,023	51.4	751,333	460,013	60	2	4	6.1
Great Northern 1956	8,272	1,194,292	1,201,915	34,282	49,708	66.1	3,736,293	1,890,387	277	41	16	4.8
1955	8,270	1,205,375	1,210,944	38,652	49,630	67.9	3,653,236	1,846,502	239	129	34	8.5
Minneap., St. P. & S. Ste. M. 1956	4,171	435,286	437,954	2,668	15,147	63.6	1,068,981	500,684	83	10	3	3.1
1955	4,171	395,328	397,143	2,175	14,020	69.8	927,995	447,433	81	11	5	5.2
Northern Pacific 1956	6,569	849,234	862,897	22,716	36,352	68.2	2,469,694	1,137,049	215	71	47	14.1
1955	6,570	851,739	870,698	24,687	35,898	70.5	2,409,615	1,133,368	280	26	58	15.9
Central Western Region												
Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.) 1956	13,124	2,524,445	2,649,112	80,870	115,280	63.4	7,980,628	3,021,028	570	45	54	8.1
1955	13,098	2,569,732	2,686,322	76,282	116,883	62.1	8,058,392	2,930,592	542	51	42	6.6
Chic., Burl. & Quincy 1956	8,771	1,045,319	1,039,758	26,986	47,630	69.4	3,117,924	1,392,599	194	50	40	14.1
1955	8,807	1,069,444	1,065,410	30,367	47,713	69.8	3,052,665	1,364,009	212	59	24	8.1
Chic., Rock I. & Pac. 1956	7,580	950,427	946,360	1,372	37,172	61.6	2,702,891	1,132,833	174	..	1	.6
1955	7,904	870,595	865,049	944	35,344	64.2	2,484,528	1,040,988	173	..	2	1.1
Denver & R. G. Wn. 1956	2,155	308,969	333,714	34,178	15,352	69.6	1,060,652	509,950	72	9	13	13.8
1955	2,165	312,269	334,591	32,494	15,725	70.0	1,064,285	514,424	64	36	18	15.3
Southern Pacific 1956	8,055	2,333,015	2,436,735	161,166	105,625	63.5	7,415,387	2,997,148	675	113	59	7.0
1955	8,072	2,309,695	2,421,115	234,224	108,928	66.5	7,347,547	2,990,705	692	31	77	9.6
Union Pacific 1956	9,804	2,254,602	2,309,286	90,109	105,868	65.0	7,180,183	3,005,879	367	147	101	16.4
1955	9,813	2,273,962	2,321,038	113,408	109,639	67.4	7,131,644	3,021,490	397	187	117	16.7
Western Pacific 1956	1,190	245,190	263,599	16,091	11,174	68.1	757,552	338,731	45	..	..	..
1955	1,190	236,566	248,957	18,207	11,085	71.3	732,410	326,744	40	..	..	..
Southwestern Region												
Kansas City Southern 1956	886	152,327	152,350	126	8,970	69.2	639,660	298,467	25	..	2	7.4
1955	886	153,756	153,949	124	8,697	67.7	602,189	274,798	24	..	2	7.7
Louisiana & Arkansas 1956	746	100,311	100,311	....	4,407	65.3	335,368	156,552	18	..	..	..
1955	753	98,276	98,276	305	3,812	65.0	290,400	135,617	15	..	..	..
Mo.-Kans.-Texas Lines 1956	3,230	341,257	341,257	3,832	14,500	65.6	968,589	432,076	86	..	1	1.1
1955	3,230	331,495	331,495	3,443	13,979	65.8	904,142	384,835	93	..	..	..
Missouri Pacific 1956	9,709	1,357,691	1,357,691	10,969	59,430	63.8	4,154,514	1,816,573	358	..	31	8.0
1955	9,702	1,348,820	1,348,820	11,322	58,877	64.5	4,124,934	1,788,713	341	20	107	22.9
Texas & Pacific 1956	1,822	313,831	313,831	3,357	14,631	63.6	1,068,063	427,093	60	..	1	1.6
1955	1,822	322,961	322,961	3,016	14,486	63.4	1,042,312	396,164	59	..	2	3.3
St. Louis-San Francisco 1956	4,573	619,025	619,025	5,912	24,604	68.2	1,652,350	741,836	106	..	6	5.4
1955	4,564	612,823	612,851	5,865	25,363	67.2	1,656,760	732,423	128	..	6	4.5
St. Louis Southw. Lines 1956	1,554	341,383	341,407	1,614	15,493	69.7	987,463	441,410	55	..	1	1.8
1955	1,554	323,851	323,855	1,555	15,196	69.1	952,514	425,787	59	1	10	14.3
Texas & New Orleans 1956	4,302	705,944	705,944	838	29,054	64.5	2,028,730	893,770	152	..	2	1.3
1955	4,302	703,786	703,786	1,871	29,194	65.6	2,000,176	875,996	142	..	8	5.3

For the Month of May 1956 Compared with May 1955

Region, Road and Year		Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos and tenders	G.t.m. per train-mi. excl.locos and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car-miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng. Region	Boston & Maine 1956	1,490	8,624	10,114	1.9	39,945	2,566	1,055	27.0	876	48.7	5,617	15.6	144.5
	1955	2,409	8,774	11,183	5.4	40,648	2,606	1,041	25.7	747	44.1	5,234	15.6	125.0
	N. Y., N. H. & Htfd 1956	2,066	16,357	18,423	3.1	43,246	2,743	1,135	26.3	538	30.6	6,046	15.8	128.9
	1955	2,027	15,845	7,872	2.3	45,446	2,670	1,071	24.7	576	34.5	5,753	17.0	127.2
Great Lakes Region	Delaware & Hudson 1956	1,448	6,073	7,521	4.0	63,401	3,628	1,898	35.9	1,509	59.4	14,751	17.6	170.8
	1955	3,839	4,723	8,562	5.5	63,870	3,480	1,789	34.4	1,163	47.9	13,232	18.4	166.2
	Del., Lack. & Western 1956	3,322	12,098	15,420	3.0	50,409	2,902	1,282	29.6	819	41.1	13,371	17.7	205.0
	1955	5,447	9,520	14,967	2.7	50,906	2,958	1,273	27.8	741	38.9	11,610	17.5	176.1
	Erie 1956	4,954	20,698	25,652	2.8	66,833	3,526	1,428	25.5	1,024	59.1	12,487	19.2	137.5
	1955	7,897	17,863	25,760	4.1	66,968	3,515	1,420	25.1	992	57.4	11,646	19.3	131.0
	Grand Trunk Western 1956	4,109	8,903	13,012	8.2	49,815	2,273	915	29.6	650	37.8	9,319	22.1	145.5
	1955	3,640	10,111	13,751	9.5	51,764	2,366	909	26.7	593	36.4	8,253	22.0	119.4
	Lehigh Valley 1956	7,472	8,466	15,938	4.5	67,793	3,292	1,543	33.5	741	34.4	10,456	21.0	256.3
	1955	8,532	8,460	16,992	3.3	71,293	3,483	1,612	31.6	655	31.2	9,758	20.8	230.5
	New York Central 1956	47,927	95,542	143,469	3.9	50,228	2,969	1,337	33.1	759	38.0	10,395	17.2	157.4
	1955	61,797	91,836	153,633	5.7	51,984	2,964	1,317	31.8	722	37.0	10,264	17.8	140.6
	New York, Chic. & St. L. 1956	6,245	19,749	25,994	5.2	52,302	3,079	1,397	32.5	1,342	64.0	15,966	17.4	145.4
	1955	6,087	16,649	22,736	8.0	52,226	2,963	1,353	31.2	1,303	61.7	14,595	18.1	130.4
	Pitts. & Lake Erie 1956	2,568	10,074	12,642	4.3	58,729	3,831	2,416	53.9	469	12.5	26,074	15.5	175.2
	1955	3,846	7,266	11,112	4.9	64,681	4,198	2,676	54.2	515	13.3	26,513	15.5	115.8
	Wabash 1956	8,890	9,898	18,788	4.7	66,530	3,053	1,194	26.2	1,052	62.0	8,358	21.9	162.7
	1955	8,072	10,631	18,703	6.7	64,341	2,940	1,117	24.7	1,060	65.6	8,303	22.0	184.8
Central Eastern Region	Baltimore & Ohio 1956	46,148	54,402	100,550	4.5	50,328	3,406	1,710	42.6	965	36.3	16,160	15.0	141.6
	1955	49,148	49,654	98,802	13.7	50,832	3,355	1,663	38.3	870	35.5	14,403	15.4	126.2
	Bessemer & Lake Erie 1956	4,346	1,223	5,569	7.3	102,410	6,672	4,233	75.1	1,653	37.7	44,230	15.9	162.7
	1955	3,995	963	4,958	21.8	108,690	6,922	4,496	81.2	1,520	32.5	41,796	16.1	141.7
	Central RR Co. of New Jersey 1956	2,161	11,112	13,273	6.6	41,876	3,015	1,592	39.5	476	18.1	10,617	14.4	90.0
	1955	3,967	10,228	14,195	7.1	42,309	3,017	1,566	37.9	425	16.8	9,750	14.6	85.2
	Chicago & Eastern Ill. 1956	2,391	2,824	5,215	8.1	57,933	3,216	1,556	35.1	1,126	47.1	7,260	18.0	144.3
	1955	3,068	3,013	6,081	6.9	51,117	3,218	1,594	33.8	930	39.9	6,881	15.9	142.4
	Elgin, Joliet & Eastern 1956	6,505	10,639	17,144	5.2	21,120	2,744	1,501	45.0	260	9.1	18,748	8.1	101.7
	1955	7,195	8,993	16,188	5.6	22,604	2,765	1,426	41.5	240	9.0	16,544	8.6	94.3
	Pennsylvania System 1956	99,101	96,233	195,334	5.5	54,541	3,364	1,641	36.4	863	36.4	16,865	16.7	110.4
	1955	110,286	95,615	205,901	13.5	55,809	3,297	1,567	34.3	729	32.5	15,144	17.4	94.0
	Reading 1956	8,707	21,899	30,606	3.6	49,563	3,244	1,777	44.7	666	23.0	16,396	15.3	77.6
	1955	12,781	17,076	29,857	5.3	47,509	3,081	1,630	41.7	567	20.9	13,134	15.4	71.0
	Western Maryland 1956	4,064	4,541	8,605	3.1	49,420	3,493	1,981	48.4	1,297	42.8	13,354	14.4	184.2
	1955	4,348	3,738	8,086	4.7	49,785	3,427	1,957	47.7	1,339	43.6	12,633	14.7	180.2
Pocahontas Region	Chesapeake & Ohio 1956	48,447	35,277	83,724	1.2	72,404	3,859	2,168	49.7	1,369	48.2	22,584	18.9	101.2
	1955	48,504	36,032	84,536	3.1	73,219	3,908	2,193	48.1	1,296	46.2	21,401	18.9	95.6
	Norfolk & Western 1956	32,176	10,060	42,236	1.3	79,813	4,766	2,649	52.7	1,581	51.2	31,445	17.3	127.5
	1955	30,511	8,341	38,852	1.8	81,763	4,813	2,661	50.9	1,517	49.8	28,365	17.5	108.6
Southern Region	Atlantic Coast Line 1956	16,979	18,114	35,093	4.5	43,234	2,265	997	31.9	864	45.0	5,799	19.2	160.4
	1955	18,950	17,836	36,786	3.8	44,086	2,406	1,025	31.0	840	47.1	5,833	18.4	139.7
	Central of Georgia 1956	2,135	7,362	9,497	3.9	47,598	2,709	1,323	33.8	1,030	44.2	5,503	17.6	101.3
	1955	2,708	6,752	9,460	4.2	50,508	2,898	1,417	32.9	950	40.9	5,124	17.4	91.6
	Gulf, Mobile & Ohio 1956	4,246	10,733	14,979	5.5	71,993	3,705	1,785	32.2	1,076	47.7	5,947	19.5	108.1
	1955	5,189	9,210	14,399	2.6	76,290	3,901	1,850	31.0	1,100	49.6	6,162	19.6	110.9
	Illinois Central 1956	22,471	27,463	49,934	1.9	52,213	3,085	1,436	34.6	1,130	53.0	8,677	17.2	98.0
	1955	25,364	25,480	50,844	2.6	52,430	3,093	1,421	33.1	1,120	53.8	8,880	17.2	75.8
	Louisville & Nashville 1956	26,876	15,802	42,678	3.8	50,096	2,866	1,445	38.3	1,037	43.1	9,369	17.5	153.1
	1955	27,947	14,679	42,626	5.5	46,838	2,747	1,424	40.9	742	49.1	6,444	17.1	99.8
	Nash., Chatt. & St. Louis 1956	3,381	3,892	7,273	3.8	40,199	2,142	1,043	31.4	779	33.8	5,568	18.8	122.8
	1955	3,997	2,908	6,905	4.5	41,073	2,306	1,141	33.7	600	25.3	3,902	17.9	76.5
	Seaboard Air Line 1956	10,683	17,225	27,908	2.3	52,223	2,911	1,272	31.9	1,034	52.8	7,039	18.3	180.9
	1955	12,123	16,079	28,202	2.5	55,567	2,987	1,252	30.6	1,009	53.8	6,835	19.0	183.4
	Southern 1956	15,827	25,375	41,202	2.7	53,065	3,085	1,436	30.6	1,006	48.5	6,767	17.3	115.5
	1955	17,843	21,969	39,812	4.6	53,987	3,220	1,486	30.0	1,116	54.7	7,565	16.9	127.2
Northwestern Region	Chicago & North Western 1956	17,229	28,880	46,109	4.9	54,136	3,056	1,272	30.5	659	34.1	3,857	18.0	149.6
	1955	18,382	28,725	47,107	4.5	55,112	3,112	1,439	31.5	712	34.0	4,156	18.1	131.4
	Chicago Great Western 1956	1,394	3,971	5,365	2.9	79,148	4,177	1,963	32.2	1,563	70.6	6,066	19.0	141.4
	1955	1,689	4,782	6,471	2.9	76,560	4,145	1,907	31.0	1,352	63.3	5,651	18.5	135.2
	Chic., Milw., St. P. & Pac. 1956	27,972	33,255	61,227	6.5	59,035	3,106	1,416	31.5	733	35.5	4,164	19.1	117.7
	1955	31,153	32,140	63,293	5.9	58,241	3,053	1,376	30.4	706	34.8	4,125	19.1	107.1
	Chic., St. P., Minn. & Omaha 1956	1,118	7,960	9,078	2.6	34,371	2,359	1,035	30.5	577	28.5	3,315	14.6	80.7
	1955	1,122	7,726	8,848	5.2	32,504	2,265	1,001	29.8	607	29.5	3,252	14.5	83.1
	Duluth, Missabe & Iron Range. 1956	13,996	844	14,840	1.6	89,879	5,444	3,279	62.3	1,075	33.8	28,140	17.4	80.7
	1955	13,717	848	14,565	1.8	85,340	5,232	3,204	65.5	1,022	30.4	26,079	17.6	87.6
	Great Northern 1956	20,598	22,934	43,532	3.1	57,629	3,178	1,608	38.0	1,423	56.6	7,372	18.4	122.9
	1955	21,498	18,242	39,740	3.1	56,253	3,077	1,555	37.2	1,443	57.1	7,202	18.6	104.6
	Minneap., St. P. & S. Ste. M. 1956	6,158	9,067	15,225	5.1	51,214	2,503	1,173	33.1	1,068	50.8	3,872	20.9	158.5
	1955	6,769	7,665	14,434	6.7	51,214	2,380	1,147	31.9	1,015	45.6	3,460	21.8	139.5
	Northern Pacific 1956	17,731	17,623	35,354	6.2	57,165	2,924	1,346	31.3	1,044	48.9	5,584	19.7	90.9
	1955	18,421	17,262	35,683	6.0	55,904	2,841	1,336	31.6	1,019	45.8	5,555	19.8	84.7
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.). 1956	55,467	37,660	93,127	3.5	73,573	3,170	1,200	26.2	1,087	65.4	7,426	23.3	143.5
	1955	54,782	34,545	89,327	4.1	73,220	3,151	1,146	25.1	1,082	69.4	7,218	23.3	149.6
	Chic., Burl. & Quincy 1956	18,384	22,734	41,118	4.0	63,018	2,990	1,335	29.2	1,096	54.0	5,122	21.1	128.5
	1955	21,624	22,024	43,648	3.3	59,191	2,859	1,278	28.6	1,005	50.4	4,996	20.7	127.9
	Chic., Rock I. & Pac. 1956	12,191	21,776	33,967	5.2	58,124	2,849	1,194	30.5	1,118	59.6	4,821	20.4	182.7
	1955	13,386	19,443	32,829	5.7	57,373	2,861	1,199	29.5	1,015	53.7	4,249	20.1	168.1
	Denver & R. G. Wn. 1956	7,510	5,880	13,390	3.1	65,765	3,443	1,655	33.2	1,228	53.1	7,633	19.2	130.8
	1955	8,404	5,286	13,690	4.1	66,331	3,415	1,651	32.7	1,213	53.0	7,665	19.5	101.6
	Southern Pacific 1956	30,408	50,158	80,566	2.0	62,381	3,215	1,300	28.4	1,217	67.6	12,003	19.6	108.2
	1955	29,969	43,746	73,715	1.9	61,566	3,218	1,310	27.5	1,251	68.5	11,952	19.4	116.6
	Union Pacific 1956	30,647	30,287	60,934	1.7	82,072	3,207	1,343	28.4	1,574	85.3	9,890	25.8	128.3
	1955	30,344	32,940	63,284	2.5	81,398	3,162	1,340	27.6	1,530	82.4	9,932	26.0	112.3
	Western Pacific 1956	2,117	4,705	6,822	2.0	77,962	3,106	1,389	30.3	1,643	79.6	9,182	25.2	203.3
	1955	2,310	3,854	6,164	1.8	75,976	3,119	1,392	29.5	1,724	82.0	8,857	24.5	223.8
Southwestern Region	Kansas City Southern 1956	1,268	5,998	7,266	2.5	85,976	4,218	1,968	33.3	1,285	55.8	10,867	20.5	216.9
	1955	1,114	5,946	7,060	3.2	83,106	3,925	1,791	31.6	1,244	58.2	10,005	21.2	201.3
	Louisiana & Arkansas 1956	1,541	3,404	4,945	6.0	64,918	3,347	1,562	35.5	988	42.6	6,770	19.4	219.3
	1955	1,309	3,334	4,643	5.6	49,760	2,958	1,381	35.6	956	41.4	5,810	16.8	252.6
	Mo.-Kans.-Texas Lines 1956	4,291	7,275	11,566	5.8	61,129	2,842	1,268	29.8	1,240	63.4	4,315	21.5	135.4
	1955	4,965	6,795	11,760	9.9	57,865	2,733	1,163	27.5	1,078	59.5	3,843	21.2	128.5
	Missouri Pacific 1956	23,145	31,212	54,357	4.6	63,700	3,084	1,349	30.6	1,102	56.5	6,036	20.8	125.8
	1955	26,029	28,106	54,135	3.2	66,329	3,078	1,335	30.4	1,080	55.2	5,947	21.7	101.2
	Texas & Pacific 1956	2,308	6,567	8,875	2.6	75,530	3,418	1,367	29.2	1,538	82.9	7,562	22.2	180.5
	1955	2,944	6,695	9,639	2.0	71,998	3,238	1,231	27.3	1,351	78.0	7,014	22.3	185.3
	St. Louis-San Francisco 1956	12,487	11,759	24,246	3.0	54,312	2,682	1,204	30.2	1,032	50.2	5,233	20.3	207.0
	1955	13,790	10,242	24,032	3.9	52,353	2,710	1,198	28.9	986	50.8	5,177	19.4	172.3
	St. Louis Southw. Lines 1956	1,778	4,637	6,415	2.0	58,823	2,900	1,296	28.5	2,165	109.1	9,163	20.3	210.7
	1955	1,827	4,508	6,335	1.8	60,202	2,945	1,317	28.0	2,075	107.1	8,839	20.5	158.3
	Texas & New Orleans 1956	5,109	16,369	21,478	1.9	59,899	2,892	1,274	30.8	1,308	65.9	6,702	20.8	164.9
	1955	5,854	18,006	23,860	1.9	59,317	2,859	1,252	30.0	1,245	63.2	6,569	20.9	169.6

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

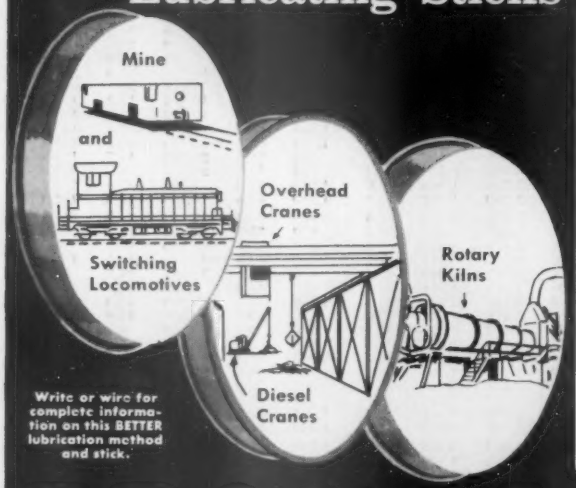
a RAILWAY AGE Workbook Page

On All Rolling Equipment

Lower Maintenance Cost . . . Greater Wheel Life

TRANSALL®

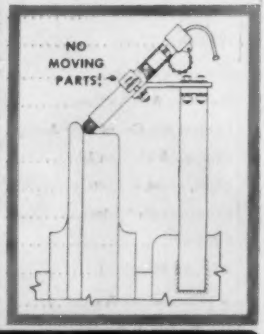
Flange Lubricator* and Lubricating Sticks*



Write or wire for complete information on this BETTER lubrication method and stick.

Effective lubrication where you want it . . . *dry* lubrication that won't creep, cause slippage or pick up abrasive sand or dust . . . *trouble-free* lubrication that increases horsepower hours in service . . . cuts wheel-flange maintenance and downtime costs as much as 50%!!

Transall's *square, dry* lubricating stick, scientifically compounded and service tested over a long period of time for safe, effective lubrication, will not rotate in Transall's adjustable lubricator barrel. You get constant lubrication over the entire wear area. Simply installed and easily maintained, Transall® Flange Lubricator* and Sticks* are your most economical buy for safe, fully effective wheel maintenance.



*Patents Pending

TRANSALL, INC.®

RAILWAY DIVISION • 109 No. 11th Street • P. O. Box 1588 • BIRMINGHAM, ALA.

FOR DIESEL ENGINES

FOR TRUCK FLEETS

Railroads make Big Savings with KIM Electric pre-heater

KIM HOTSTART keeps Diesel engines warm between runs; keeps Gasoline engines warm when trucks are stored at night. KIM plugs into the electric circuit, draws off cold water from the engine, heats and circulates it through the engine. KIM licks cold weather damage to engines; gives quick, easy starts; reduces engine wear; ends service tie-ups and high repair bills.

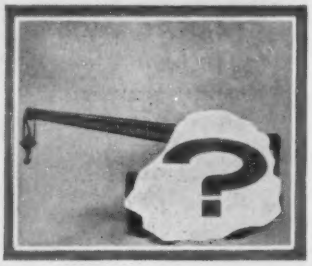
KIM Hotstart

Write for literature

KIM HOTSTART MANUFACTURING COMPANY

West 917 Broadway, Spokane 1, Washington

$TRENGTH
$IMPLICITY
$TABILITY
$AFETY



A NEW 5 TON CRANE From SERVICE SUPPLY

Check These Greater Dollar $aving Features

• COMPLETE HYDRAULIC OPERATION
• LONGER & HIGHER REACH • POWER STEERING
• SOLID OR PNEUMATIC TIRES

Exclusive territories are available for materials handling sales specialists. Write today for details.

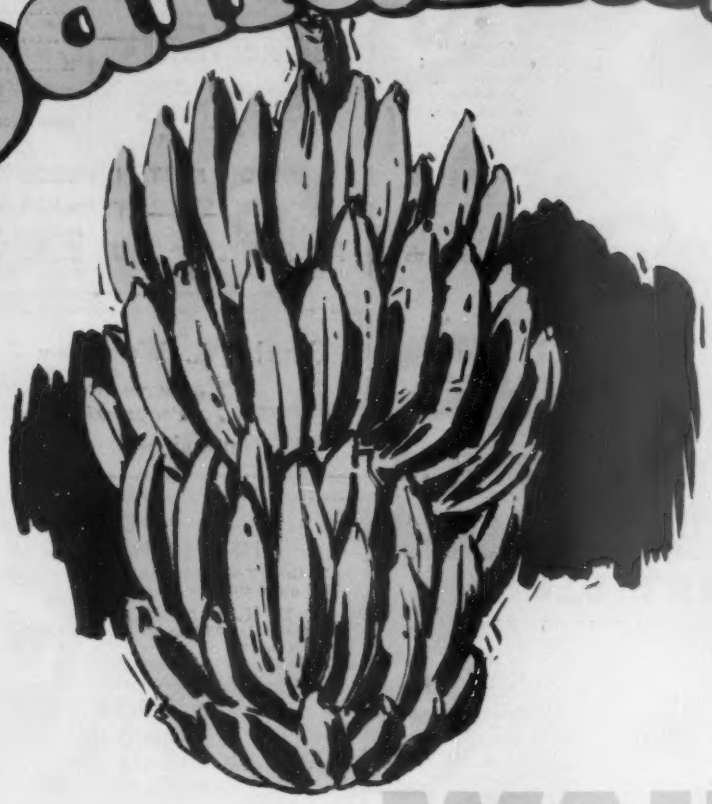
SERVICE SUPPLY CORPORATION

MANUFACTURING DIVISION

20TH STREET AND ERIE AVENUE • PHILADELPHIA 32, PA.

To shock proof shipments of

Bananas



... WAUGH

Cushion Underframe

The record of Cushion Underframe cars in banana shipments shows much less lading damage than for cars equipped with any other type of cushioning device.

'Premium' shock proofing of mechanical refrigerator cars protects lading and refrigeration equipment.

WAUGH EQUIPMENT COMPANY

New York, Chicago, St. Louis. Canadian Waugh Equipment Company, Ltd., Montreal

NO ELBOW ROOM?

USE Lewis sealtite slotted head bolts

All products are manufactured in the U.S.A. to A.S.T.M. specifications.

Cross section of head, from above, showing slot, bevel, shank. Bolt available with Loktite No. 2 (shown) or std. sq., and hexagon nuts. Call, wire or write for samples, prices.

Whenever limited space makes wrench work difficult rely on Lewis slotted head bolts. This slotted bolt can be set with a screw driver . . . even in the most inaccessible places. The "wood engineered" bevel under the head compresses and packs the wood, forming a waterproof seal. Available in Hot-Dip Galvanized finish for double-life, greater economy — in black for low first cost.

Lewis BOLT & NUT COMPANY
504 Malcolm Ave. S. E.
MINNEAPOLIS 14, MINNESOTA

LOOK FOR THIS STAMP OF U QUALITY

ADVERTISERS

American Steel Foundries 34, 35
Agency—Erwin, Wasey & Company, Ltd.
Automatic Electric Sales Co. 33
Agency—Proebsting, Taylor, Inc.
Bethlehem Steel Company 1
Agency—Jones & Brakeley, Inc.
Crane Company .....Inside Front Cover
Agency—The Buchen Company
Edgewater Steel Company 4
Agency—Downing Industrial Advertising, Inc.
Electro-Motive Division, General Motors Corporation .....Front Cover
Agency—Marsteller, Rickard, Gebhardt & Reed, Inc.
Erman-Howell Division 42
Fairmont Railway Motors, Inc. 17
Agency—MacManus, John & Adams, Inc.
Frank, M. K. 42
General Railway Signal Company .....Back Cover
Hunt Company, Robert W. 42
Iron & Steel Products, Inc. 42
Jackson Vibrators, Inc. 22
Agency—Stevens, Inc.
Johns Manville 14
Kim Hotstart Mfg. Co. 40
Agency—The Simon Co.
Klockner-Humboldt-Deutz A. G. Koln Deutz 19
Lewis Bolt & Nut Company 42
Agency—E. T. Holmgren, Inc.
Magnus Metal Corporation 6
Agency—Marsteller, Rickard, Gebhardt & Reed, Inc.
Minnesota Mining & Mfg. Co. 18
Agency—MacManus, John & Adams, Inc.
Railway Educational Bureau, The 42
Service Supply Corp. 40
Agency—The Roland G. E. Ullman Organization
Spring Packing Corp. 36, 37
Agency—William Hart Adler, Inc.
Standard Railway Equipment Co. ....Inside Back Cover
Agency—Clinton E. Frank, Inc.
Transall, Inc. 40
Agency—Robert Luckie & Company, Inc.
Union Switch & Signal Division of Westinghouse Air Brake Company 2
Agency—Batten, Barton, Durstine & Osborn, Inc.
United States Steel Corporation, United States Steel Export Company 20, 21
Agency—Batten, Barton, Durstine & Osborn, Inc.
Vapor Heating Corporation 15
Agency—William Hart Adler, Inc.
Walmsley & Associates, Charles A. 42
Waugh Equipment Company 41

CLASSIFIED ADVERTISEMENTS

FOR SALE
RAILWAY EQUIPMENT
Used—As Is—Reconditioned

RAILWAY CARS
All Types

LOCOMOTIVES
Diesel, Steam, Gasoline, Diesel-Electric

SPECIAL OFFERINGS

31 ALL-STEEL ORE CARS, HOPPER TYPE
40- AND 50-TON CAPACITY
Excellent Condition—Immediate Delivery!

3—30-Cubic Yard, 50-Ton, Magor, Lift Door, Side Dump, Automatic Air-Operated DUMP CARS

SERVICE-TESTED®
FREIGHT CAR REPAIR PARTS
For All Types of Cars

RAILWAY TANK CARS and STORAGE TANKS
6,000 - 8,000 and 10,000-gallon
Cleaned and Tested

IRON & STEEL PRODUCTS, INC.
"ANYTHING containing IRON or STEEL"

General Office
13486 So. Brainard Ave.
Chicago 33, Illinois
Phone: Mitchell 6-1212

New York Office
50-c Church Street
New York 7, New York
Phone: BEekman 3-8230

Charles A. Walmsley & Associates
Management Consultants
To Progressive Railroads
6437 Nottingham St. Louis 9, Mo.

FOR SALE
NEW ANGLE BARS IN STOCK
150 Gross Tons, 100# ARA-A Section, drilling 5-5-5, and 6-5-5-5-6. Will quote attractive price.

M. K. FRANK
401 Park Bldg., Fifth Avenue
Pittsburgh, Pa.

M. K. FRANK
480 Lexington Avenue
New York 17, N.Y.

FOR SALE
RECONDITIONED
RAILROAD CARS FOR INTERPLANT USE
GONDOLAS • BOX • FLAT
ERMAN-HOWELL DIVISION
332 South Michigan Avenue
Chicago 4, Illinois
WEbster 9-0500

POSITION OPEN
Short Line Railroad Trainmaster capable of interpreting working agreements, handling crews, must have switching experience. Would prefer man who could direct picking up derailments if necessary. Give name of last employer, age and salary expected. Address replies to Box 802, RAILWAY AGE, 30 Church St., New York 7, N.Y.

WANTED
ASSISTANT ENGINEER for switching railroad in Ohio. Duties include supervising track maintenance, making surveys, plans, etc. Civil Engineering graduate preferred. Give experience, education and age in first reply. Address replies to Box 801, RAILWAY AGE, 30 Church St., New York 7, N.Y.

BUY BONDS

SUPERVISION TRAINING
Top supervisors acquire technical knowledge, plus the ability to handle men. Our texts in the Supervision Series, along with supplementary work relating to your job specialty, consistently develop the know-how which makes efficient leaders.

All texts are written and serviced by railroad men. We provide full consultation privileges on problems in your own work.

Folders and a personal letter describing how we fit our study material to your requirements will be sent on request. Thes texts are also available as a Supervision training program for management. THE RAILWAY EDUCATIONAL BUREAU, IS 09 Capitol Avenue, Omaha 2, Nebraska.

Robert W. Hunt Company
ENGINEERS
Inspection—Tests—Consultation
All Railway Equipment
Structures and Materials
General Offices
175 W. Jackson Boulevard
CHICAGO
New York-Pittsburgh-St. Louis

This is the eighth in a series of advertisements about the people of Standard.

SPECIALIST IN ENGINEERING SERVICE

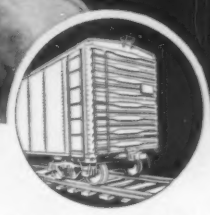
—and busy family man

This is Jim Swann—Standard's Chief Engineer. Away from his job Jim is a golfer, fisherman and baseball player turned fan. In all these activities Jim is the central figure in a group completed by his five sons.

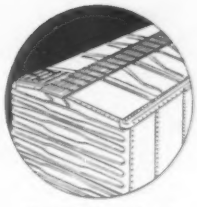
Jim Swann has an office in Standard's main plant. But often as not you'll find him at work in the engineering offices of the railroads. With your engineers Jim makes sure the Standard car parts you order will be delivered as specified.

Like the other members of the Standard team, Jim thinks of himself as a service man dedicated to making Standard equipment that fits your need—through good engineering.

Throughout the Standard organization *personal* attention to your needs comes first. Whether your order is for one car or hundreds—for new car parts or for replacement on existing equipment—you can depend on Standard to get cars back on the road and paying their way.



Improved Dreadnaught Ends



Diagonal Panel Roofs

9 out of 10 house cars now in operation on America's railroads are equipped with Standard Ends and Roofs.

PRI MEMBER

Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

General Office: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco

Standard Railway Equipment Manufacturing Company, (Canada) Ltd. Sun Life Building, Montreal

Reading Lines

READING CONSOLIDATES CONTROL OF 8 INTERLOCKINGS IN ONE GRS MASTER CONTROL CENTER

The Reading Company has installed a GRS NX Master Control Center at Reading, Pennsylvania, to consolidate control of 8 interlockings. As a result, 3 mechanical interlockings and 1 electric interlocking previously in service have been eliminated.

All control levers are on a compact console within arm's length of the seated operator. Train movements and other indications are clearly displayed on a separate large-scale track diagram.

With NX control, two motions suffice to handle even the most complex move. Route selection, route lineup, route restoration, and signal control are all automatic. The operator easily handles the entire consolidation efficiently and without delay.

Distance is not a barrier to consolidation with NX. Coded systems reduce wire requirements to a minimum. Ask your GRS district office for further information.

GRS

GENERAL RAILWAY SIGNAL COMPANY
ROCHESTER 2, NEW YORK
NEW YORK 17 CHICAGO 1 ST. LOUIS 1

2840